596187773

May 31, 2016

Subject- Portland Water Bureau Budget Increases

To- Portland City Council

In February water commissioner identified a 5% increase in water and sewer. Now the water rate will increase to 7% in part due to unforeseen and unnecessary added costs such as new and higher concurrent Sewer, Base Charges, and increased public relations FTE positions, etc.

Ratepayers still have to deal with the Powell Butte II 45% increase in cost from the project's initial price tag and 3200 leaks. In addition to the loss of anticipated partnership, increased costs are again passed on to the ratepayers.

The Washington Park rebuild was originally projected to cost just $62.3 million back in 2009. The estimate climbed to $76.3 million in 2013, only to grow to $170 million in September. Now it is +$190 million, creeping Portland Water Bureau debt/debt service closer to $1 billion.

With increasing rents and now utilities, citizens of Portland especially those on fixed incomes even with low income discounts, are hard pressed to make ends meet. It's now time to reduce the rate increases and impacts on those who are struggling with increased costs of living. Thank you.

Scott Fernandez

1821 NE 65th

Portland, Oregon 97213

503.282.1894

187773

Parsons, Susan

From: Dee White <deewhite1@mindspring.com>
Sent: Tuesday, May 31, 2016 5:34 PM
To: Council Clerk – Testimony
Cc: Parsons, Susan
Subject: Testimony Agenda Item 596 - document attached
Attachments: PWB Requested FY 2016-17 Budget Submission Revised Memo.pdf

Sue,

Thank you for your help! I have attached another doc that I would like included in the record. Acknowledgement appreciated.

Thank you,
Dee White

3836 SE 49th Ave.
Portland OR 97206

Commissioner Nick Fish
City of Portland

Date: February 1, 2016

To: Mayor Charlie Hales
Commissioner Amanda Fritz
Commissioner Steve Novick
Commissioner Dan Saltzman

From: Commissioner Nick Fish NF

Subject: Portland Water Bureau FY 2016-17 Budget Request

I am pleased to forward to you the Requested Budget for the Portland Water Bureau for Fiscal Year 2016-17.

This is my third budget submission as Commissioner-in-Charge of the City's two public utility bureaus. The Requested Budget meets regulatory requirements, helps to prepare us for the "Big One," and supports strategic initiatives to protect the long-term health of our water system.

The City furnishes clean and safe drinking water to over 900,000 people in the Portland metropolitan area. As a general rule, about 1/3 of each combined utility bill is for water, while 2/3 is for sewer and stormwater services.

This year, I have again directed the City's public utilities to keep the combined rate increase under 5%. They are on track to meet that directive.

In last year's budget, the bureau projected a rate increase of 9.4% for FY 2016-17. Through savings in FY 2014-15, lower planned debt service for the 2016 Water Revenue bonds, and lower than anticipated inflation, that number has been reduced by more than a quarter, to 7.0%.

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The requested operating budget strengthens in-house testing capabilities to respond to reduced options nationwide, and deepens equity initiatives with a request to support planning efforts to better serve underrepresented communities. And it also seeks new funding to address growing maintenance needs and respond to a significant increase in permitting and work orders.

The requested capital budget continues to prioritize earthquake resilience and ongoing rehabilitation of aging infrastructure. Capital projects, like the upcoming work at Washington Park, will generate local jobs and support growth in our economy.

The newly-formed Portland Utility Board (PUB), and the Citizens' Utility Board (CUB), have weighed in with preliminary budget recommendations. They will continue to play a crucial role in strengthening oversight of our two utilities, and will have a seat at the table during our budget hearings.

Thank you for your consideration.

PORTLAND UTILITY BOARD

Staff Contact:
Melissa Merrell
(503) 823-1810
Melissa.Merrell@portlandoregon.gov
City Budget Office
1120 SW 5th Ave, Ste 1300
Portland, Oregon 97204-1912

To: Mayor Charlie Hales
Commissioner Nick Fish
Commissioner Amanda Fritz
Commissioner Steve Novick
Commissioner Dan Saltzman
Auditor Mary Hull Caballero

Subject: Budget Submissions for the Bureau of Environmental Services and the Water Bureau

Date: January 29, 2016

The Portland Utility Board (PUB), officially convened in September 2015 and has met eight times to build our understanding of the mission, operations, budget, and finance processes of the Water Bureau and Bureau of Environmental Services (BES). The PUB submits this budget letter in response to our duties to:

> "*advise the City Council, on behalf of and for the benefit of the citizens of Portland, on the financial plans, capital improvements, annual budget development and rate setting for the City's water, sewer, stormwater, and watershed services. The Board will advise Council on the establishment of fair and equitable rates, consistent with balancing the goals of customer needs, legal mandates, existing public policies, such as protecting water quality and improving watershed health, operational requirements, and the long-term financial stability and viability of the utilities. (3.123.010)*"

Given the complexity of these utilities and continuous demands on each bureau, the PUB is looking at current practices, but with an eye towards the future. For both bureaus, the operations budget for fiscal years 2016-17 and the five-year capital improvement plan (2016-2021) are products of previously developed programs, plans, and studies that guide the management of water-related infrastructure. In addition, both bureaus have new directors who are in the process of assessing and realigning their organizations to address future needs. As such, the PUB does not expect to significantly influence this year's budget proposals.

Nonetheless, the PUB intends to remain engaged in the decision-making process for FY 2016-17. To date, the bureaus have presented the PUB with a general

sense of their decision-making processes and have briefed us on some of the key decisions that will inform their budget requests. While these discussions have provided context for the budget and a sense of the issues that the bureaus hope to address, we look forward to receiving the final details provided in the requested budget submissions. Subsequently, we will receive the analysis of those requests by the utility analysts in the City Budget Office. After deliberation on the final submissions and the CBO analysis, we expect to provide additional communication to City Council that addresses the detailed issues in the submissions. From there, we look forward to participating in the budget work sessions in March, engaging with the Mayor as he develops his proposed budget, and participating in the utility rate hearing in May.

The PUB's influence in advising the bureaus and City Council will be best achieved working "upstream" of this year's budget process. To this end, we look forward to additional briefings from the bureaus to improve our understanding of the existing processes and will be identifying places in those processes where PUB can be most effective in carrying out its charge to advise the City Council. For now, we offer the following observations and suggestions:

- The PUB is very interested in being an engaged partner in the strategic planning processes of both bureaus that are currently underway and will continue this year. The PUB encourages the bureaus to include critical stakeholders (at local and regional levels) in those processes and also to examine and update key performance measures as necessary to track, manage, and communicate bureau activities and accomplishments.
- Through integration of existing facilities and systems planning efforts, the Bureaus should continue to prioritize resiliency and address the projected impacts of climate change (especially hydrologic and temperature shifts) and earthquake vulnerability. The bureaus should work closely with other service providers in the Willamette and Columbia River region to determine the most cost effective, efficient, and robust manner in which to manage all water-related infrastructure for the public in both the "new normal" and true emergency situations.
- The PUB, echoing the recommendations of the Blue Ribbon Commission, feels strongly that there is a need for improved communication between the bureaus and their customers. As part of the strategic planning mentioned above and using existing resources, both bureaus should examine current communication activities and identify ways to better convey the depth and breadth of bureau work, the value provided for the dollar (and how much is covering debt service), and increase the transparency and availability of financial and program information.
- The PUB encourages the bureaus to address affordability in a holistic, integrated manner. In response to a request from Commissioner Fish, the PUB has created a subcommittee to examine the Low Income Discount Program. At this time, the PUB endorses the Water Bureau's activities to increase outreach to households who are currently eligible for the Low Income Discount Program but not enrolled, with the goal of reaching the already budgeted-for 10,000 households. The subcommittee will continue to evaluate a full range of broader options during the spring and will make additional recommendations in the summer. The committee's goal is to examine equity of access issues within the existing Low Income Discount Program and the feasibility or effectiveness of using the utility bureaus' resources to meet broader policy goals. At this stage, it is unknown whether our recommendations will have any budget implications. To the extent that future recommendations do have a budget impact, those additional resources would not be needed in the upcoming fiscal year.

Framing the vision for the bureaus to strengthen and maintain the public trust, and fine-tuning the bureaus' cultures to ensure that they are more inclusive, transparent, and cooperative, will encourage

meaningful community dialogue and understanding that will serve the bureaus in the future as they request regular increases in rates over time.

The current budgets and Capital Improvement Plans (CIP) reflect the ongoing work and organizational culture of both bureaus. The PUB submits the following observations on specific elements within the bureau budgets and CIPs:

- The PUB encourages both bureaus to continue to assess staffing needs through their strategic planning processes and focus on filling critical, currently vacant positions this year.
- BES Projects:
    - Ongoing review of the bio-gas utilization and organic waste receiving facility projects at the wastewater treatment plant for their costs and benefits should continue to ensure proper use of ratepayer funds (see CUB memo).
    - As the bureau works on its wastewater facilities planning and the stormwater systems planning, the PUB encourages an open and transparent process to ensure long-term costs of options are adequately addressed before recommendations for upgrades are made.
- Water Bureau Projects:
    - The PUB does not support using ratepayer funds to pay for historic preservation activities at Mt Tabor.
    - Washington Park Reservoir is sited in the center of a significant and historically active landslide hazard zone according to Oregon Department of Geology and Mineral Industries. While the bureau has engaged in significant research and planning to mitigate potential risks, those activities, as well as the evaluation of alternatives, cost increases to date, and on-going project monitoring need to be more clearly communicated to the public.
    - The Willamette River Crossing is also an expensive and sizable project designed to fortify the weakest and most difficult section of the west side distribution line to repair in the event of an earthquake. The PUB looks forward to future briefings from the Bureau about their current assessment of the resiliency of the overall water system and the Bureau's expectations of how this and the Washington Park Reservoir work will strengthen the system. In addition, the PUB encourages the bureau to continue and to find new ways to communicate this information with the public to right size expectations.

The PUB views this opportunity to comment on the bureaus' budget submissions as the first of several touch points throughout the annual budget and planning processes. We look forward to providing you further advice as these processes continue through the spring.

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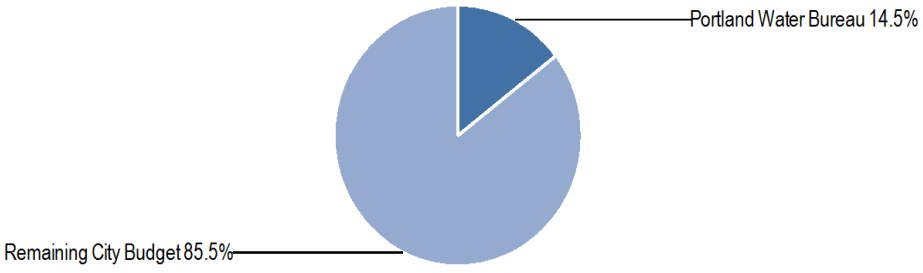
Portland Water Bureau

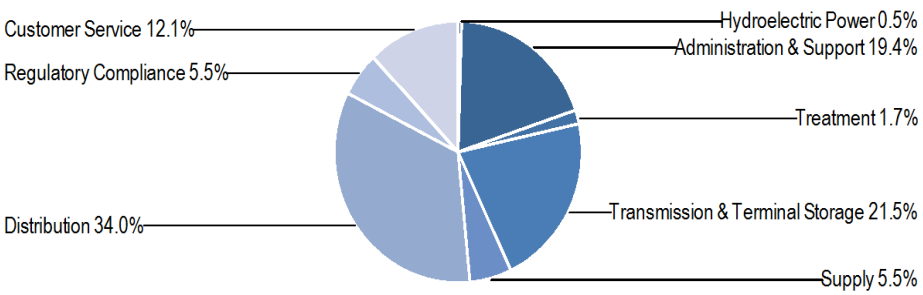
Public Utilities Service Area

Nick Fish, Commissioner-in-Charge
Michael Stuhr, P.E., Administrator

Percent of City Budget



Bureau Programs

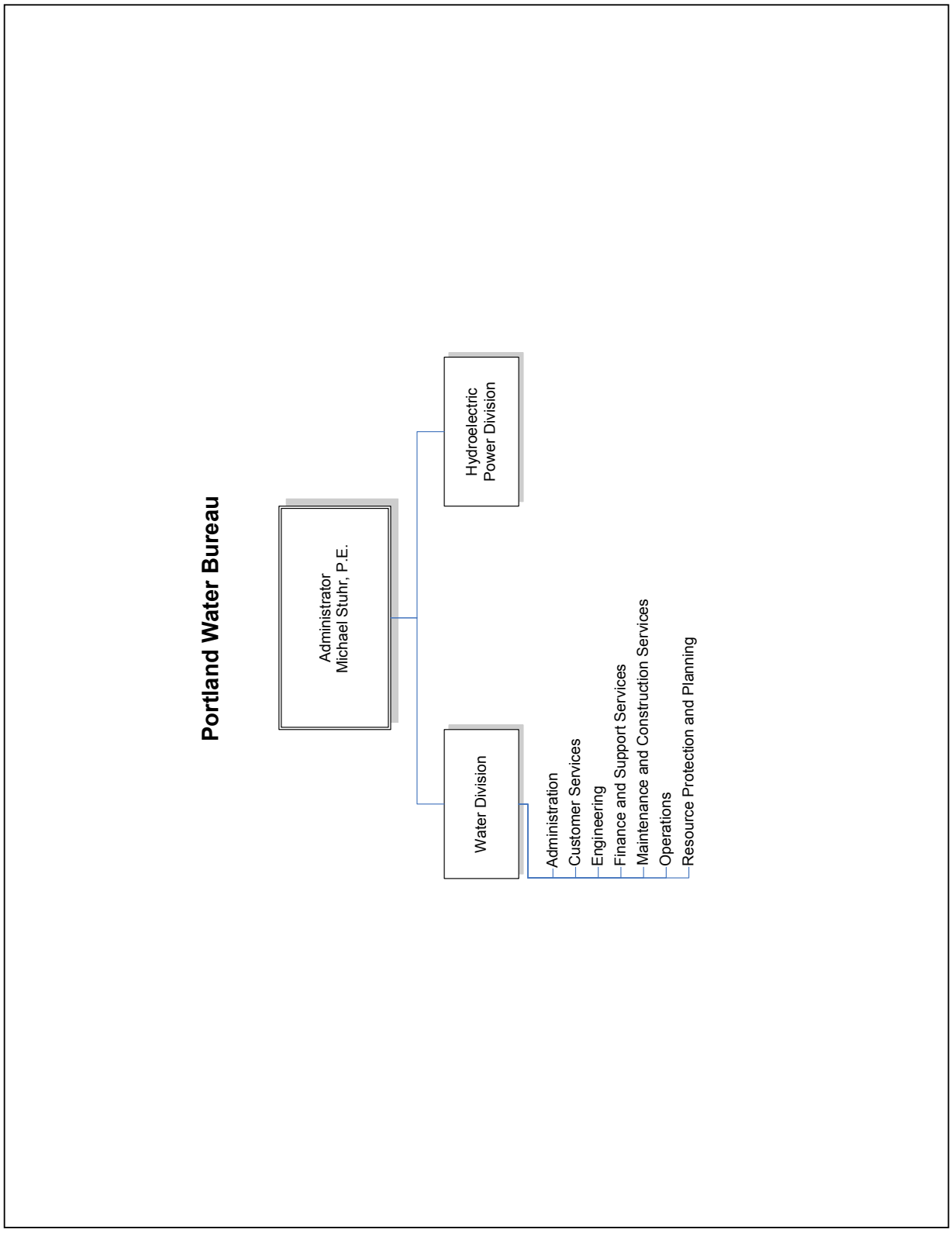


Bureau Overview

Expenditures	Revised FY 2015-16	Requested FY 2016-17	Change from Prior Year	Percent Change
Operating	479,208,294	526,369,478	47,161,184	9.84
Capital	68,770,750	82,890,000	14,119,250	20.53
Total Requirements	**547,979,044**	**609,259,478**	**61,280,434**	**11.18**
Authorized Positions	569.90	578.55	8.65	1.52

Portland Water Bureau

Public Utilities Service Area



Bureau Summary

Bureau Mission

The mission of the Portland Water Bureau is:

- To provide reliable water service to customers in the quantities they desire and at a quality level that meets or exceeds both customer and regulatory standards;
- To provide the highest value to customers through customer expectations, excellent business, management, and operational practices and appropriate application of innovation and technology;
- To be responsible stewards of the public's water infrastructure, fiscal, and natural resources; and,
- To provide the citizens and the City Council with a water system that supports their community objectives and overall vision for the City of Portland.

Bureau Overview

The Portland Water Bureau has two divisions, the Water and Hydroelectric Power Divisions. The Water Division is responsible for construction, maintenance, and operation of Portland's municipal water system. The bureau's Hydroelectric Power Division is responsible for all aspects of the Portland Hydroelectric Project (PHP) administration and operations.

Water Division

The Water Division ensures that the water system can provide a sufficient quantity of high-quality water to satisfy the existing and future needs of the community. Approximately 960,000 people, about one-quarter of the state's population, are served by the Water Division. Retail customers use about 60% of the water sold, and wholesale customers use the remaining 40%. Portland has wholesale contracts with 20 water purveyors, including cities, water districts, private water companies, and a people's utility district. Retail water sales account for approximately 85% to 90% of water sales revenue; wholesale accounts make up 10% to 15% of revenues.

The Water Division is organized around seven major programs that encompass all of the division's work:

- Supply - to protect and maintain the City's two water sources to ensure a reliable supply of high-quality water
- Treatment - to apply treatment processes to meet federal and state water regulations and ensure the water is safe to drink
- Transmission and Terminal Storage - to maintain the condition and reliable operation of the large pipes and large reservoirs that convey and store water between the supply sources and retail and wholesale distribution points
- Distribution - to maintain the condition and reliable operation of the pipes, pump stations, hydrants, valves, meters, pressure regulators, services, and other assets that convey water to retail customers in the city
- Regulatory Compliance - to monitor and meet multiple state and federal regulations for operating and providing water
- Customer Service - to assist customers and provide water efficiency resources, billing, collection, permitting, security of bureau properties, and emergency response

- Administration and Support - to provide asset management, strategic planning, financial management, data management, and human resource functions

Hydroelectric Power Division

The Hydroelectric Power Division is responsible for regulatory issues and power sales related to hydroelectric projects at two dams in the Bull Run watershed and the Vernon Station Hydroelectric Project. Staff coordinate with Portland General Electric on issues related to operations and power sales, ensure compliance with regulations, and coordinate project financial matters including the administration of Portland's Hydroelectric Power Revenue Refunding bonds and related trust indenture requirements.

Strategic Direction

The strategic direction of this budget is to continue to provide balance among the following priorities:

- Delivering an essential service at a reasonable value
- Aligning services with City priorities
- Providing customers with greater convenience in how they pay their water, sewer, and stormwater bills
- Repairing, rehabilitating, or replacing aging and high-risk assets
- Providing prudent financial management in the context of decreasing demand for water
- Continuing to meet all regulatory requirements
- Improving system reliability and resiliency
- Preparing and planning for emergencies

Key Priorities

The bureau's priorities follow Commissioner Fish's focus on four areas: capital project oversight, equity and diversity, communication, and priority initiatives identified by the Commissioner. Some of the expectations include:

- Continuing with on-time and on-budget delivery of capital projects that maintain quality drinking water, protect public health, comply with regulations, replace aging infrastructure, and ensure seismic resilience and emergency response capability.
- Developing measurements for the bureau's culturally diverse outreach program, broaden outreach strategies for recruitments to ensure diverse pools of candidates and expand potential employee pools to promote fairness in hiring and promotion, and conduct staff development and succession planning and to ensure the bureau's contract continues to meet and exceed City goals for contractors certified through the Oregon State Office of Minority, Women, and Emerging Small Businesses.
- Developing a Strategic Communication Plan and specific outreach plans for major capital projects including the Willamette River Crossing and the Washington Park Reservoir Improvement Project.

Budget Guidance

As in prior years, Commissioner Fish provided budget guidance to the Portland Water Bureau and Bureau of Environmental Services to submit a budget with a combined bill increase of no more than 5.0 percent. Mayor Hales' budget guidance for FY 2016-17 was to review the bureau's programs for realignments and efficiencies before asking for fee or rate increases and to seek to keep any fee and rate increases to a minimum.

Portland Utility Board (PUB)

The oversight groups for the FY 2016-17 budget development process have changed from prior years with the creation of the Portland Utility Board (PUB). The PUB replaces the Public Utility Review Board and the Budget Advisory Committees (BAC) for the Portland Water Bureau and Bureau of Environmental Services (BES). The PUB is a 9-member citizen body created to strengthen oversight functions for the City's water, sewer and stormwater services. The Citizens' Utility Board (CUB) will continue to provide outside independent review of the Portland Water Bureau and BES on behalf of residential ratepayers. The PUB and CUB have done preliminary reviews of the Bureau's FY 2016-17 Requested Budget, Five-Year Capital Improvement Plan, and the retail rate increase.

Forecast Retail Water Demand

Overall water demand has been decreasing since FY 2003-04 with relatively flat demand from FY 2010-11 through FY 2012-13 and a decline again in FY 2013-14. The bureau's water demand for FY 2014-15 was 25.7 million ccf, or 0.3 million ccf below plan. This is an increase compared to FY 2013-14 retail water demand of 24.8 million ccf. Retail water sales for FY 2015-16 are forecast at 25.1 million ccf and are expected to meet or exceed the forecast. Water demand projections remain a key factor in setting water rates. As customers purchase less water, there is a corresponding loss in revenues that creates a need for either service reductions or rate increases due to proportionally fewer units (in ccf) of water sold to fund the fixed costs of the utility. More than 95% of Portland Water Bureau system costs are considered fixed in the short term. This is similar to most water utilities in the United States.

Payment Card Industry (PCI) Standard Compliance

The bureau worked with the City Treasury office and the Information Security section of the Bureau of Technology Services to ensure the bureau is compliant with payment card industry (PCI) standards. Maintaining PCI compliance will have a budget impact as a result of increased processing fees, the potential for increased staff, and a possible decrease in account collectability. As a result, the bureau will be implementing an electronic payment application to ensure that the bureau continues to comply with PCI while restoring the electronic payment options that were available to customers.

Portland Building Renovation

The City's Facilities Services within the Office of Management and Finance (OMF) has proposed to City Council to completely renovate the Portland Building. The renovation project is estimated at $195 million. The bureau is considering whether to own or lease all of the spaces it currently occupies in the Portland Building or continue with the current mix of owning and leasing of the spaces. The costs of the options range from $3.1 million to $4.2 million annually for the ongoing share of the debt service payments and O&M expenses. The options assume the City will be implementing a blended rate methodology among all City-owned facilities in the downtown area beginning in FY 2019-20.

Summary of Budget Decisions

Water Division Budget

The Water Divisions's total operating and capital budget is $172.5 million with 576.30 FTE. The budget includes five decision packages totaling $2,013,200 and 10.50 FTE. The capital program budget is $82.9 million and the operating budget is $89.7 million.

Regulatory Monitoring

The PWB is adding capabilities to the existing Water Quality Laboratory to perform in-house Cryptosporidium analysis for the purposes of continuing to achieve compliance with the Bureau's Bull Run Treatment Variance (BRTV). This package includes 2.0 FTE (ongoing) within the Water Quality Laboratory to conduct Cryptosporidium analysis using the required EPA methods, as well as an additional, one-time $130,000 during FY 2016-17 for laboratory operating supplies.

Community Information and Outreach

This second decision package will provide $243,200 in order to increase outreach to traditionally underserved communities and build capacity for upcoming large Capital Improvement Projects (CIP) by adding 2.0 FTE positions to the PWB Community Information and Outreach Group.

Infrastructure Maintenance

The Infrastructure Maintenance package is a response to the growing need to optimize the Portland Water Bureau's approach to maintaining, upgrading, and protecting water system infrastructure. In addition to predictive and preventative maintenance, the PWB has a robust CIP program that continues to add new assets to the system that require maintenance. The PWB is requesting 3.5 FTE and $292,600 to assist with the growing responsibility for new and aging infrastructure.

Information Processing

In order to maintain customer service and records management standards, the PWB is requesting 3.0 FTE positions and $366,500. This decision package will assist the Bureau in meeting City mandatory development review timelines as well as continuing to reach and improve upon its customer service goals. Further, meeting Federal, State and local regulations on records management will also improve our response time for requests, and reducing the staff time in answering them while helping us deliver high quality service in a cost-efficient manner.

Tabor Preservation Project

Resolution No. 37146 was adopted by City Council on July 15, 2015 to maintain, repair and preserve the Mt. Tabor Reservoirs following disconnection. The Portland Water Bureau, and other City agencies as are necessary, are directed to work with the Mt. Tabor Neighborhood Association (MTNA) to prioritize maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report to be accomplished over a four-year period beginning in FY 2016-17. The request to the General Fund is to allocate $750,000 for FY 2016-17 and $4 million total over the next four years to the maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report.

Water Rate

The FY 2016-17 retail water rate increase is 7.0%. The forecasted water rate increase for FY 2017-18 is 8.4%, FY 2018-19 is 8.3%, FY 2019-20 is 10.7% and FY 2020-21 is 8.1%.

Hydroelectric Power Division Budget

The Hydroelectric Power Division's operating budget is $797,725. This budget supports the division's administrative and operational costs by using revenues generated from power sales. The division's budget includes 2.25 FTE positions.

Capital Budget

Capital Summary

CIP Highlights

The Portland Water Bureau's Five-Year Capital Improvement Plan (CIP) includes about $474 million in water system investment needs for the five-year period beginning in FY 2016-17. The FY 2016-17 CIP budget is $82.9 million. The bureau's budget consists of seven programs: Customer Service, Distribution, Regulatory Compliance and Water Quality, Supply, Administration and Support (Support), Transmission and Terminal Storage, and Treatment.

Several large CIP projects in the Transmission and Terminal Storage Program - including construction of the large enclosed finished water storage reservoirs at Powell and Kelly Buttes - will be completed and closed out at the end of FY 2015-16. Disconnection of the Mount Tabor reservoirs from the distribution system was completed in FY 2015-16; work to fulfill the construction permit requirements will continue into the five-year period. Construction of the seismically resilient covered storage at Washington Park is the last major Transmission and Terminal Storage project required for compliance with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2 rule). This program is allocated about 38 percent of the five-year CIP budget.

About 46 percent of the proposed investments for the FY 2015-20 CIP are allocated to the bureau's Distribution Program. Large parts of the distribution system are many decades old, with some original elements that are near or at the end of their beneficial lives. Major projects include repairing and/or seismically upgrading and replacing aging and leaking mains in several service areas; making replacements and repairs at three water pump stations and several storage tanks; replacing aging customer service piping, system meters, and hydrants; seismic strengthening for a key pipe crossing of the Willamette River; and final work on upgrades to the bureau's Interstate Maintenance Facility work center and storage yard.

Projects in the Customer Service, Regulatory Compliance, Water Quality, Supply, Support, and Treatment Programs make up the remaining amount. Major projects include updates to address aging equipment at the Headworks and treatment facilities and electrical power supply improvements at the Groundwater Pump Station.

Major Issues

The bureau's focus for the upcoming five-year period continues to be improving system reliability and resiliency. Ensuring system reliability includes addressing risks posed by assets with high consequences of failure, replacing aging and obsolete pipes and equipment, and making adjustments to facilitate better operations and Portland's growing population centers. Resiliency efforts include improving the system's ability to withstand and recover from natural hazards such as earthquakes (Oregon Resilience Plan), floods, and landslides. Several major projects include measures to specifically ensure both reliability and resiliency. The FY 2016-17 Requested Budget emphasizes the following key strategies and goals:

- Continuing compliance with all water-quality and environmental regulations
- Ensuring the reliability of the water system through cost-effective repair, rehabilitation, and replacement strategies
- Enhancing system resiliency to withstand seismic events and other natural hazards and being prepared to respond in such emergencies

- Supporting citywide planning goals for growth and neighborhood improvement

Changes from Prior Year

The Portland Water Bureau (PWB) continues to plan for providing long-term benefits and reducing risks. Fiscal Year (FY) 2016-17 marks the beginning of a transition from major projects for regulatory compliance to major projects that address other risks. Three major projects necessary for compliance with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2 rule) have been completed. The reservoirs at Powell Butte and Kelly Butte have already been put into service and the uncovered reservoirs at Mt. Tabor were disconnected from the distribution system in December, 2015.

The biggest change in the FY 2016-17 five-year request is related to the need to mitigate geotechnical issues and provide adequate seismic resilience at Washington Park. The total 5-year CIP request is about $474 million, up from $391 million in the FY 2015-16 request. The additional measures add approximately $65.5 million, in the comparable years between FY 2016-17 and FY 2019-20. The project total for the Willamette River Crossing remains about $56 million, but the timing of the project has been revised from FY 2017-18 and most of the expenditure is now planned for FY 2018-19. Exclusive of the request for additional funds for the Washington Park project, the bureau's FY 2016-17 budget request for the five-year period is consistent with the amount projected in the financial plan in FY 2015-16.

The proposal includes about $15.8 million in new major projects in FY 2016-17 including three additional distribution mains projects, remodeling a portion of the water quality control laboratory for *Cryptosporidium* testing, strengthening a conduit trestle crossing in Gresham, replacing flow control valves in Dam 1, funding to replace aging microwave communication equipment, and--at Headworks--relocating the septic disposal field and upgrading the chlorine gas scrubber system. These new projects help reduce risk, maintain system reliability, improve the bureau's ability to meet water-quality regulations, and assure employee safety.

Council Goals and Priorities

In 2015, the City's draft 2035 Comprehensive Plan was released to City Council. The plan includes a guiding framework for strategic growth and improvements. Major goals and policies include providing infrastructure to support healthy Portlanders, accessible neighborhoods with transportation options, and public safety. The bureau supports these goals through its mission of reliably providing excellent quality water that meets or exceeds all regulations; providing the highest value to customers through best practices; responsibly stewarding fiscal, natural, and built water resources; and providing a system that supports community objectives and the City's vision.

Criteria

Bureau projects in the CIP budget must meet at least one of the following criteria: compliance with water quality or environmental regulations, maintaining reliable service, supporting properly functioning equipment, reducing system risk, supporting other agencies' project needs, or ensuring emergency preparedness. The Portland Water Bureau selects projects for inclusion in the budget based on these criteria as well as the results of a benefit-cost analysis and consideration of the logistics of rate increases, the opportunities to share costs with interagency partners, opportunities for revenue, and regulatory requirements.

Capital Planning and Budgeting

Capital Planning Process

Most bureau project proposals are identified through long-range planning studies such as master plans and asset-specific analyses of systems, service areas, or groups of assets. Bureau decision-makers weigh individual projects against wider bureau issues and requirements. If projects are recommended to move forward, planning staff conducts detailed studies. PWB uses industry practices in benefit-cost analysis and risk assessment to identify and weigh project alternatives.

Project initiation and planning includes several decision-making points. For major projects, an initial concept report includes evaluations of project alternatives and recommendations. PWB senior management uses the initial findings to narrow alternatives and approve next steps. If approved, a project undergoes more formal evaluation in a Project Validation Report (PVR). The PVR includes benefit-cost analysis and risk assessments, which weigh proposed solutions and identify benefits. PWB selects and ranks capital projects with consideration for the magnitude and necessity of the project.

Each year, PWB engages the public in developing its budget and the CIP. In the recent past, the Budget Advisory Committee (BAC)--made up of citizen stakeholders and bureau staff and management--participated in a three-month process of reviewing processes, programs, and projects. In 2015, the newly formed Portland Utility Board (PUB) replaced the individual bureau BACs as well as the Public Utility Review Board. The PUB will meet year-round and oversee financial plans, capital improvements, annual budget development, and rate-setting for the City's water, sewer and stormwater services.

After requested budget development with PUB, the city-wide budget review process provides additional opportunities for members of the community to give feedback on the budget. In addition, all CIP projects that affect neighborhoods or require city, state, or federal permitting also include a period of public outreach and involvement.

City Comprehensive Plan

The 2035 Draft Comprehensive Plan sets clear standards for maintaining and developing water system resources to ensure reliability, adequacy of supply, and water quality. The Comprehensive Plan also includes six integrated goals for prosperity, education, human health, environmental health, resilience, and equity.

The bureau’s CIP program supports Comprehensive Plan goals and policies by providing for maintenance of the city’s water system and developing new facilities in a proactive, strategic, and cost-effective manner. Capital projects provide planned and emergency repairs, new services, the replacement of aging assets, and improved or backup services to ensure the long-term expansion of neighborhoods and business centers.

Supporting human health is a key part of the bureau’s mission. The reliable delivery of clean water that exceeds regulatory standards is integral to all bureau programs and projects. Hydrant placement for fighting fires is also evaluated as part of capital project development.

Many bureau projects and programs support environmental health. PWB's Bull Run Habitat Conservation Plan includes habitat improvement projects for endangered species affected by water supply operations. Renovation and new construction projects for occupied facilities incorporate sustainability goals wherever possible. Operational changes made through the bureau's Asset Management Program have reduced the use of resources, including energy sources, in some areas. PWB's Carbon Footprint Report assesses the energy used to deliver water and measures bureau progress in lowering carbon emissions.

Building in resilience is part of the bureau's core mission. The Asset Management Program regularly evaluates assets at risk from natural or human-caused events and recommends methods to reduce risk and improve resiliency. Several of the bureau's major projects, including the water storage facilities at Powell Butte, Kelly Butte, and Forest Park Low Tank, include features to meet the current seismic code. The Washington Park Reservoir Project includes extensive measures to strengthen the underground tank against movement from earthquakes and landslides. Another major project, the Willamette River Crossing, includes a design to ensure the flow of water to Portland's west side, should other pipes fail in a large earthquake.

The bureau's asset management work for FY 2016-17 includes a task that includes an equity component. In the customer survey on bureau Key Service Levels, the bureau is planning to invite underrepresented customers to participate. Underrepresented customers include people in apartments (who do not receive sewer, stormwater, and water bills directly from the bureau), customers who may lack an Internet connection, and customers for whom English is not a first language. The bureau's goal is to gather information from a diverse group of customers.

The bureau's noncapital work also supports the Comprehensive Plan goals. Water Efficiency Program staff reach out to residents and businesses, offering education and technical assistance. PWB actively educates the community about exposure to lead hazards and offers free tests for lead in drinking water. A financial assistance program, available to qualifying customers, may provide a bill discount, crisis assistance voucher, and other services to low-income customers.

Financial Forecast Overview

The CIP is an integral element in the development of PWB's financial plan, because the size of the CIP has a significant effect on water rates. The mix of projects in the CIP is also important. Projects related to supply and transmission enhancements serve wholesale and retail customers alike. Costs are shared with wholesale customers; but costs for projects related to the distribution system are mostly allocated to retail customers. The method chosen to finance projects affects rates as well. Specifically, the balance between debt and cash financing affects the debt service coverage targets as do bond terms and structures.

PWB staff has calculated the projected water rates for the five-year financial forecast based on the CIP and Operations and Maintenance (O&M) budgets and other factors affecting rates. Those factors include projected demand estimates, inflation factors, and other economic factors such as interest rates.

Retail Rate Impact

The forecasted required revenue is based on total costs that are expected to be recovered from water sales, regardless of from whom they will be collected. The revenue requirements must be allocated between wholesale and retail customers to determine the specific customer class rate revenue impact. Contractual provisions specify the method of allocating costs to wholesale customers. Retail rates are set on a residual cash basis to recover the portion of the total cash basis revenue requirements not allocable to wholesale customers. After deducting all other revenue sources, including wholesale revenues, the PWB's retail rate increase for FY 2016-17 is 7.0 percent.

Water Construction Fund

Capital investments in the water system are funded through the Water Construction Fund. The Water Construction Fund (WCF) is financed from three major sources: net proceeds from revenue bond sales, transfers from the Water Fund (primarily water sales revenues), and construction fund revenues (system development charges, direct capital reimbursements, and interest earnings). These monies fund indirect capital costs (overhead and interest) as well as direct project costs. For this 5-year CIP, approximately 36 percent of capital requirements are funded with current resources; the balance will come from bond proceeds.

Cash/Water Sales Financing

The PWB has two debt service coverage planning standards for rate setting. PWB's target minimum debt service coverage ratio is 1.90 on first-lien bonds (1.25 per bond covenant). The debt service coverage ratio on combined first- and second-lien stabilized bonds is 1.75 stabilized net revenue (1.10 per bond covenant). In managing the second-lien stabilized test, PWB employs a rate-stabilization account that also serves the dual purpose of a rainy day fund. Managing these two ratios together reflects the PWB's strategy to optimize its capital financing strategies, thus maximizing its existing resources.

Debt Financing

Pursuant to the City Charter, state statutory authority, and City Council approval, the PWB may issue debt in the form of revenue bonds. By City Charter, the WCF is the recipient of net proceeds from bond sales to fund capital improvements. Bond reserves are deposited in the Water Sinking Fund. The PWB plans to issue revenue bonds every twelve to eighteen months through FY 2020-21. Starting in FY 2021-2022, bond sales will be sold mainly on a biennial basis to provide necessary debt financing for the capital program. About $92 million in revenue bonds are next scheduled for sale in the fall of 2016.

Water Construction Fund Revenues

The PWB's level of WCF revenues is determined mainly by the actions of external parties, with the majority of these revenues coming from service and main installations ($5.5 million projected for FY 2016-17), system development charges ($3.0 million projected in FY 2016-17) and interagency capital revenues ($1.9 million projected for FY 2016-17).

Operations & Maintenance and Capital Studies

The CIP also includes a small portion of project expenditures that cannot be funded through the WCF. These expenditures generally occur as capital studies, preliminary engineering, and other work that does not meet the capital criteria of a betterment, improvement, or addition to the water system as set forth by City policy or industry practice. The CIP includes about $3.9 million for Operations and Maintenance (O&M) and studies in FY 2016-17. The total amount budgeted for O&M and studies over the five years is $21.9 million. As an operating cost, these are 100% cash-financed, usually from water sales.

Asset Management and Replacement Plan

The bureau's assets are currently valued at approximately $8.2 billion. Although the bureau has been a diligent steward of its assets, some aging components are nearing the end of their useful lives. These aging assets make the bureau vulnerable to risks ranging from high operating costs for energy and maintenance to sudden catastrophic failure.

Asset management involves using engineering, economics, and business expertise to identify the most cost-effective way to maintain, repair, and replace assets. At the heart of asset management is risk assessment, consisting of an analysis of the likelihood and consequences of asset failure. The bureau is tracking its high risks and has addressed 60% of them, with plans to address another 35% underway.

The bureau has developed 19 separate asset class management plans that provide strategies for proactively managing asset risk. Another four are expected to be completed within the year. The Asset Management Program supports the bureau's goals to ensure the longest possible useful asset life as well as the most cost-effective replacement strategy.

Capital Programs and Projects

Capital Program Descriptions

Customer Service Program

The focus of the Customer Service Program is customer contact, billing and collection, water conservation, and providing for the bureau's facilities and grounds, including the security function. One of the goals of this CIP program is to improve security and emergency preparedness for water system assets.

Distribution Program

The Distribution Program provides water to customers through the system of distribution mains and related facilities. The Distribution Program ensures the reliability and expansion of the piping, pumping, and storage network that primarily distributes water from terminal storage reservoirs to retail customers. The program provides for the ongoing installation and replacement needs for 2,100 miles of distribution mains, which includes control valves, fire hydrants, drinking fountains, and customer service connections, in addition to pump stations, storage tanks, large-diameter distribution-system transmission mains, and pressure-regulating stations. Several large elements of this system, about $250 million worth, including some of the oldest pump stations and tanks, are nearing or have reached the end of their useful lives. Other capital projects in this program provide for the relocation of, and adjustments to, water pipes and facilities to accommodate transportation and other public-agency projects.

Regulatory Compliance Program

The Regulatory Compliance Program provides for meeting federal and state standards for drinking water quality and for meeting environmental standards related to the bureau's operations in the Bull Run Watershed and the Columbia South Shore Well Field.

The bureau maintains an exemption to the federal Surface Water Treatment Rule that otherwise requires filtration for a water source. Maintaining this status requires management, monitoring, and reporting on the status of the water system in the Bull Run Watershed. Through the exemption, the bureau avoids the cost of building a facility under the Treatment Program.

In addition, in 2012, OHA granted a variance to the LT2 requirement for treating the water for *Cryptosporidium*, a disease-causing microorganism. The variance will be in effect until April 2022 as long as PWB is able to meet conditions for monitoring, maintaining legal protections, managing the watershed, and reporting. With this variance, PWB avoids the cost of constructing and operating a water treatment facility.

Supply Program

The focus of the Supply Program is maintaining the reliability of the water supply through effective management of the bureau's assets. The Supply Program includes both the Bull Run Watershed and the Columbia South Shore Well Field (CSSWF). Projects in the Bull Run Watershed address the proper functioning of watershed assets, such as the dams and the intake and treatment facilities. Proper functioning of these assets helps the bureau to continue to operate an unfiltered system. Maintenance and large repairs to the groundwater facilities in the CSSWF are also included when needed.

Support Program

The Support Program includes ongoing bureau work supporting other programs in areas such as finance, data management, project planning, master planning, and human resources. The bureau staff use asset management methods - such as evaluations of risk, life-cycle costs, and benefit-cost ratios - as part of the project planning process. Master planning identifies the need for, and timing of, improvements or infrastructure acquisition as well as the most effective asset-management strategies for investing in bureau assets. Human resources staff support the bureau's goals to attract and retain a diverse, high-caliber workforce.

Transmission and Terminal Storage Program

The Transmission and Terminal Storage Program includes assets that convey water from water supply facilities to points in the retail distribution and the wholesale connection systems. Assets in this program include the large conduits, transmission mains, and the large terminal reservoirs--Powell Butte, Kelly Butte, and Washington Park. The program provides for the repair, rehabilitation, and replacement of these transmission system assets.

Treatment Program

The Treatment Program provides for meeting or exceeding federal and state requirements for a public water system utilizing an unfiltered surface water source and a groundwater source. The program currently provides for the application of chlorine, ammonia, and sodium hydroxide, and associated regulatory and process control monitoring. PWB also operates under the terms of a 10-year variance from the portion of the LT2 rule that requires the treatment of Bull Run source water for *Cryptosporidium*. While the variance is in effect, the bureau will avoid the costs associated with constructing a treatment facility to address *Cryptosporidium.*

Funding Sources

Projects are funded from a combination of net proceeds from revenue bond sales, water sales revenue, interagency and other construction fund revenues such as system development charges and interest earnings. These monies fund indirect capital costs (overhead and interest) as well as direct project costs. For this five-year CIP, approximately 36% of capital requirements are funded with current resources; the balance will come from bond proceeds.

Following the scheduled bond sale in fall, 2016, additional sales are planned every twelve to eighteen months through FY 2020-21. Proceeds totaling $375 million are to be used to fund capital costs in the five-year period.

Capital revenues provide approximately $55 million across the five years. Capital revenues include system development charges, new services or mains, City interagency revenues, and sales of assets. Cash-financed capital funding from rate revenues provide approximately $157 million across the five years.

Major Projects

Customer Service

Beginning in FY 2016-17, the five-year CIP includes ongoing funding to replace and enhance security technology and complete minor improvements to grounds and non-operating facilities.

Distribution

The major projects in the distribution system address needs to improve system reliability and operations, strengthen elements for a seismic event and replace aging assets. Some projects fulfill several of these objectives. Major FY 2016-17 projects include (1) replacing the 100-year-old Fulton Pump Station (Hannah Mason) to reduce energy costs, improve reliability, and strengthen the wholesale distribution system, (2) replacing a pipe in poor condition that crosses a major rail line, (3) installing a seismically resilient pipe crossing of the Willamette River, (4) improving the Greenleaf Pump Station to eliminate the need for the Penridge storage tank and improve fire flow near Forest Park, (5) upgrading the Verde Vista Pump Station so that it can supply both the Pittock and Calvary Tanks and provide for the decommissioning of Burnside Pump Station, and (6) replacing the Council Crest Tank roof to reduce the risk of failure during a wind, ice, or seismic event.

Other major Distribution Program projects provide for the relocation of and adjustments to water pipes and facilities to accommodate for interagency projects. Completion of the Interstate Maintenance Facility rehabilitation is also included in this program.

Regulatory Compliance

The bureau is requesting some capital funds for laboratory adjustments to accommodate analysis of Bull Run source water for *Cryptosporidium*. The changes to the laboratory would help the bureau continue to meet the conditions of the 10-year Bull Run Treatment Variance in lieu of constructing a treatment facility. The program also funds ongoing habitat improvements, described in the Bull Run Water Supply Habitat Conservation Plan, a regulatory agreement with the National Marine Fisheries Service.

Supply

Supply Program projects for the Bull Run Watershed include four large road-repair projects. Segments of the primary access and primary backup roads to key water supply facilities are being resurfaced and repaired to improve vehicle safety. The five-year CIP also includes projects to replace aging, obsolete equipment and rehabilitate a septic system that no longer meets current code. These projects are slated to begin in FY 2016-17.

Projects in the Groundwater Program focus on maintaining the installed capacity and reducing the vulnerability of the well field. This includes replacing some elements of the electrical supply equipment necessary to pump groundwater. The five-year CIP does not include a major expansion of the well field beyond the current capacity.

Support

The Support Program includes funding each year for master planning for capital projects.

Transmission and Terminal Storage

PWB met the December 31, 2015, deadline to disconnect the open reservoirs at Mt. Tabor from the drinking water system. The Tabor Reservoir Adjustments project should be close to completion by the end of FY 2016-17. Construction for Washington Park Reservoir 3 began in FY 2015-16 and will continue through the five-year period. As part of the bureau's focus on assessing and improving its large conduits, the FY 2016-17 budget includes a project to reinforce a conduit trestle bridge in Gresham.

Treatment

Projects in the Treatment Program provide needed reliability improvements at the water intake and treatment facilities. Proper functioning of these assets helps the bureau to continue to operate an unfiltered system. For FY 2016-17, the replacement of an emergency standby generator, fuel tank, and related electrical components continues at the Headworks Facility in the Bull Run Watershed. The bureau is also replacing a Headworks chlorine gas scrubber that is at the end of its useful life.

Net Operating and Maintenance Costs

Operating and maintenance (O&M) costs, when applicable, are estimated as part of the project feasibility study and preliminary evaluations. The costs generally include labor, electricity or fuel, and chemicals. Changes in the cost of energy and chemicals are normally much easier to identify and estimate than labor or efficiency savings.

Much of the CIP is dedicated to the ongoing renewal and replacement of the core components of the water system: the pipes, valves, hydrants and other system appurtenances used to distribute water to customers. These long-life passive assets, typically buried and not visible, do not require much in the way of regular O&M. Following initial installation, only occasional specific maintenance is conducted, such as flushing pipelines, verifying water control valve operation and testing fire hydrant flow. Due to the large inventory of these assets, completed renewal projects may result in only a nominal net change in O&M costs because the site-specific maintenance cost is so minimal.

For example, the replacement of pipes with a high frequency of leaks will result in reduced reactive O&M due to fewer leak repairs. However, the relatively small percentage of pipe length replaced in any given year will not appreciably alter the O&M budget. Other infrastructure, such as pump station improvements, may increase O&M costs when additional facilities are constructed or capacity added. Most improvements are to reconstruct existing facilities, and the net change in O&M expense is insignificant.

When new facilities are built, the O&M cost can affect water rates and would be included in the forecast.

Supply

Description

The provision of water in the quantities desired by customers is a key portion of the mission of the bureau. The Supply Program is focused on providing the water to retail and wholesale customers. The program includes both water from the Bull Run Watershed and water from the Columbia South Shore Well Field. In total, these systems supply a population of nearly 960,000 people and Portland-area businesses.

Goals

This program supports the City goal of promoting economic vitality and opportunity, especially in providing high-quality, affordable public utility services. The program also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to providing safe drinking water.

Performance

The Bull Run Watershed provides 95% or more of the City's annual water supply under normal operating conditions.

Changes to Services and Activities

As part of the Infrastructure Maintenance decision package, 0.4 FTE of an Electrician was added to the Supply Program to supplement the increased preventative maintenance from large capital projects completed in the last two years, including Dam 2 Tower and Powell Butte, which include significant new electrical systems.

FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
FTE	20.00	23.00	23.00	23.00	23.00
Expenditures					
Bull Run Watershed	3,556,990	4,841,457	5,775,413	6,765,860	6,789,260
Groundwater	2,028,648	1,692,853	3,682,719	2,695,085	2,718,485
Total Expenditures	**5,585,638**	**6,534,310**	**9,458,132**	**9,460,945**	**9,507,745**

Performance	Actual FY 2013-14	Actual FY 2014-15	Yr End Est. FY 2015-16	Base FY 2016-17	Target FY 2016-17
Effectiveness					
Percentage of city's water supply provided by Bull Run watershed under normal operating conditions	99%	98%	95%	95%	95%

Treatment

Description The Treatment Program provides for meeting or exceeding the federal and state requirements for a public water system utilizing an unfiltered surface water source as well as a groundwater source. This program currently provides for the application of chlorine, ammonia, and sodium hydroxide, and the associated regulatory and process control monitoring.

Goals This program supports the City goal of promoting economic vitality and opportunity, especially in providing high-quality, affordable public utility services. The Treatment Program also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to providing safe drinking water.

Performance The bureau's target is to have no violations of state and federal drinking water regulations (see Regulatory Compliance section).

Changes to Services and Activities No significant changes from prior year.

FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
Expenditures					
Water Program Treatment	4,115,203	2,890,005	2,791,734	2,950,331	2,962,031
Total Expenditures	**4,115,203**	**2,890,005**	**2,791,734**	**2,950,331**	**2,962,031**

Transmission & Terminal Storage

Description

The Transmission and Terminal Storage Program is for the conveyance of water from the supply sources to the city, including the terminal storage reservoirs at Powell Butte, Kelly Butte and Washington Park.

Goals

This program supports the City goal of promoting economic vitality and opportunity, especially in providing high-quality, affordable public utility services. The Transmission and Terminal Storage Program also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to providing safe drinking water.

Performance

There are no simultaneous conduit or transmission main outages that cause disruption of service to customers except in the case of natural vulnerability events that occur less often than once every 100 years or in the case of planned maintenance shutdowns.

Changes to Services and Activities

The budget reflects an increase in this program, including .5 FTE as part of the Infrastructure Maintenance decision package requested to address the growing need to optimize the bureau's approach to maintaining, upgrading, and protecting water system infrastructure.

FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
Expenditures					
Conduits/Transmission	1,108,193	1,667,994	1,241,619	2,569,019	2,592,419
Terminal Reservoirs	60,417,387	39,063,823	15,053,564	34,585,439	34,609,813
Total Expenditures	**61,525,580**	**40,731,817**	**16,295,183**	**37,154,458**	**37,202,232**

Distribution

Description

The Distribution Program is directed at the reliable conveyance of water from the terminal storage reservoirs through the customer meters. This program includes tanks to store water and maintain system pressures, meters to accurately record usage for billing purposes, hydrants for fire-protection and line-flushing purposes, and valves to alter or stop water flows under various circumstances such as line breaks or fire needs. This program includes the repair, rehabilitation, or replacement of distribution system assets.

Goals

This program supports the City goal of promoting economic vitality and opportunity, especially in providing high-quality, affordable public utility services. The Distribution Program also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to providing safe drinking water.

Performance

The program performance metrics include the following goals:

- No more than 5% of customers will be out of water for more than 8 hours a year
- No customer will be out of water more than 3 times per year
- Maintains a minimum service pressure of 20 pounds per square inch (psi) during normal demands 99% of the time
- Meet at least 80% of standards established for inspection, testing, repair and replacement of assets that are identified as medium, high or extreme risk
- More than 90% of flow control valves operate when needed

Changes to Services and Activities

The operating budget reflects an increase of about $60,000 and 1.10 FTE in this program as part of the Infrastructure Maintenance decision package requested to address the growing need to optimize the bureau's approach to maintaining, upgrading, and protecting water system infrastructure.

FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
FTE	244.00	213.00	192.00	192.00	193.50
Expenditures					
Distribution Mains	16,656,779	19,831,430	24,320,806	24,657,360	24,657,360
Field Support	26,558,147	23,564,574	12,439,062	8,337,415	8,337,415
Fountains	347,818	100,547	99,683	106,259	106,259
Hydrants	3,408,677	4,486,753	2,354,046	2,375,539	2,375,539
Meters	2,392,234	2,636,886	2,647,608	2,768,702	2,768,702
Pump Stations/Tanks	10,444,919	10,029,542	16,299,512	12,656,009	12,715,483
Services	9,555,517	11,479,848	6,538,857	6,521,962	6,521,962
Valves/Gates/Regulators	916,356	1,091,941	806,560	1,373,674	1,373,674
Total Expenditures	**70,280,447**	**73,221,521**	**65,506,134**	**58,796,920**	**58,856,394**

Performance	Actual FY 2013-14	Actual FY 2014-15	Yr End Est. FY 2015-16	Base FY 2016-17	Target FY 2016-17
Key Performance Measure					
Number of unplanned events leading to customers out of water for more than 8 hours	1	1	2	2	2
Percentage of identified high risk assets addressed	96%	91%	80%	80%	80%
Effectiveness					
Percentage of flow control valves operational when needed	100%	100%	90%	90%	90%

Regulatory Compliance

Description

The Regulatory Compliance Program has primarily focused on meeting or exceeding all federal and state water quality requirements as well as other regulatory standards, including compliance with the Endangered Species Act, proper disposal of dechlorinated water, and various monitoring requirements.

Goals

This program supports the City goal of promoting economic vitality and opportunity, especially in providing high-quality, affordable public utility services. The Regulatory Compliance Program also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to providing safe drinking water.

Performance

The bureau's goal is to have 100% compliance with state and federal drinking water quality regulations and 100% compliance with environmental regulations (including National Pollutant Discharge Elimination System permit requirements, Clean Water Act requirements, and Endangered Species Act requirements).

Changes to Services and Activities

This program includes $361,000 and 2.00 FTE added to support the addition of capabilities to the Bureau's existing Water Quality Laboratory to perform in-house Cryptosporidium analysis as outlined in the decision package.

FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
FTE	45.00	45.00	48.00	48.00	50.00
Expenditures					
Regulatory Compliance	23,296,268	6,919,173	8,522,835	9,189,095	9,549,995
Total Expenditures	**23,296,268**	**6,919,173**	**8,522,835**	**9,189,095**	**9,549,995**

Performance	Actual FY 2013-14	Actual FY 2014-15	Yr End Est. FY 2015-16	Base FY 2016-17	Target FY 2016-17
Key Performance Measure					
Number of violations of state and federal drinking water quality regulations	1				
Number of violations of state and federal environmental regulations	2				

Customer Service

Description

The Customer Service Program provides services including customer billing, payment collection, and staffing a call center for water, sewer, and stormwater services. It also provides water conservation, security, and grounds maintenance services for the Water Bureau. Emergency management and preparedness activities related to resilience and disaster recovery are funded through this program as well.

Goals

This program supports the City goal of promoting economic vitality and opportunity, especially in providing high-quality, affordable public utility services. The Customer Service Program also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to providing safe drinking water.

Performance

The bureau's measures of program performance include the following goals:

- Answer 80% of calls within 2 minutes
- Respond to 95% of customer inquiries or requests within 5 days
- Maintain a target of 75% of customers giving high or very high ratings on Auditor's Survey
- Work to increase the number of customer accounts that will be paid electronically to 40%
- Reduce the bureau's carbon emissions from 2007 levels
- Increase the percent of energy use from new renewable sources from 2007 levels

Changes to Services and Activities

This program is increasing by $1.5 million and 3.4 FTE. Electronic bill payments have increased the annual bank fees over the last few years. It is anticipated that the current budget will fall short of the actual bank fees that the bureau will incur this fiscal year. The increase to this program also includes costs to implement the new PCI compliance payment methods. Engineering Tech II and Engineering Tech III positions have been added to Development Services section to assist with the increased workload to meet mandatory deadlines related to increased plan reviews.

FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
FTE	116.80	111.50	111.60	110.70	114.70
Expenditures					
Conservation/Sustainability	769,590	704,850	1,034,271	849,392	849,392
Customer Services	13,221,905	13,881,227	15,723,229	16,896,523	17,146,123
Grounds/Parks	695,805	596,149	652,672	673,200	715,952
Security/Emergency Management	4,620,612	1,672,955	2,021,600	2,115,413	2,199,513
Total Expenditures	**19,307,912**	**16,855,181**	**19,431,772**	**20,534,528**	**20,910,980**

Portland Water Bureau

Public Utilities Service Area

Performance	Actual FY 2013-14	Actual FY 2014-15	Yr End Est. FY 2015-16	Base FY 2016-17	Target FY 2016-17
Key Performance Measure					
Average minutes that customers are on hold before speaking to a customer service representative	1.52	1.50	2.00	2.00	2.00
Effectiveness					
Percentage of customers giving high or very high ratings on Auditor's Survey	62%	NA	75%	75%	75%
Capacity of new renewable energy sources, kilowatts	323	422	400	400	400
Efficiency					
Percentage of customer inquiries or requests responded to within five business days	99%	98%	95%	95%	95%
Percentage of calls answered within 60 seconds	43%	65%	80%	80%	80%
Percentage of customer payment transactions made through preferred methods	54%	59%	50%	50%	50%
Bureau's annual carbon emissions in metric tons of CO2e	9,062	NA	14,008	14,008	14,008

Administration & Support

Description

The Administration & Support Program provides financial management, strategic and asset management planning, data management, and human resource functions for the bureau.

Goals

This program supports the City goal of promoting economic vitality and opportunity, especially in providing high-quality, affordable public utility services. The Administration & Support Program also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to providing safe drinking water.

Performance

The bureau has a goal of maintaining net revenues to provide at least 1.90 times debt service coverage on first-lien bonds, and maintaining stabilized net revenues to provide at least 1.75 times coverage on the combined annual debt service for both first and second-lien bonds. The bureau has achieved these goals in prior years and plans to achieve this goal in FY 2015-16.

Changes to Services and Activities

The Mt. Tabor Preservation decision package is included in this program. Further, 2.0 FTE are being added to the Community Outreach and Information department in order to support the goal of increasing outreach to traditionally underserved communities and to build capacity for upcoming large CIP projects such as Washington Park and Willamette River Crossing.

FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
FTE	150.60	172.60	193.05	192.10	195.10
Expenditures					
Bureau Support	17,380,969	18,645,147	20,154,332	21,230,227	22,223,427
Data Management	2,696,091	2,888,830	2,909,977	3,256,131	3,373,031
Employee Investment	1,575,964	1,829,920	1,879,703	2,254,266	2,254,266
Facilities	13,874	0	0	0	0
Planning	(17,606,218)	(13,403,697)	5,666,561	5,700,104	5,700,104
Total Expenditures	**4,060,680**	**9,960,200**	**30,610,573**	**32,440,728**	**33,550,828**

Performance	Actual FY 2013-14	Actual FY 2014-15	Yr End Est. FY 2015-16	Base FY 2016-17	Target FY 2016-17
Key Performance Measure					
Maintain water revenue bond AAA credit rating	100%	100%	100%	100%	100%
Effectiveness					
Debt service coverage at 1.90 on first lien bonds	3.12	3.36	1.90	1.90	1.90
Debt service coverage at 1.75 on both first and second lien bonds	1.81	1.83	1.75	1.75	1.75
Percentage of budgeted Capital Improvement Plan expended	98%	90%	100%	100%	100%
Efficiency					
Percentage of projects forecast to be completed within three months of planned date	100%	78%	80%	80%	80%

Hydroelectric Power

Description

The Hydroelectric Power program provides for administrative, operational, and regulatory oversight for the Portland Hydroelectric Project (PHP). Program staff provide day-to-day oversight and coordination for the operation of the PHP, which includes the control of the levels in the City's Bull Run reservoirs, the withdrawal of water from the reservoirs, and release of water downstream for compliance with in-stream regulatory targets. Program staff coordinate all issues associated with the sales of generated power to Portland General Electric; the administration of the Hydroelectric Power Revenue Refunding bonds and related trust indenture requirements, and state and federal dam safety requirements associated with the PHP; the Vernon Station Hydroelectric Project; and the Washington Park and Mt. Tabor dams.

Goals

This program supports the City goal of delivering efficient, effective, and accountable municipal services. It also supports the City goal of protecting and enhancing the natural and built environment, particularly with respect to its oversight and coordination of dam safety issues and the ongoing operation of the PHP on the Bull Run River.

Performance

In FY 2014-15 the amount of power generated by the PHP was equal to 85% of its long-term annual average. For FY 2015-16, that generation is projected at approximately 96% of the long-term average. In FY 2015-16, this program's staff provided all required oversight and support for the bureau's power projects and dams.

Changes to Services and Activities

The Hydroelectric Power Operating Fund profits that are transferred to the City's General Fund are anticipated to be $200,000 in FY 2016-17.

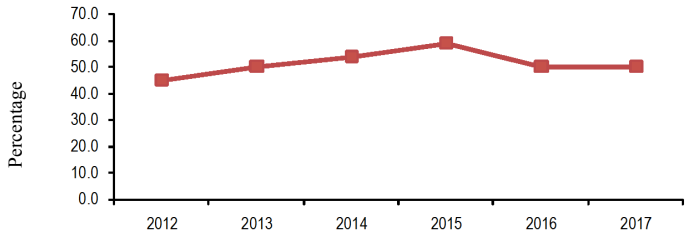
FTE & Financials	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
FTE	3.00	2.25	2.25	2.25	2.25
Expenditures					
Hydroelectric Power	601,752	473,773	925,667	797,725	797,725
Total Expenditures	**601,752**	**473,773**	**925,667**	**797,725**	**797,725**

Performance	Actual FY 2013-14	Actual FY 2014-15	Yr End Est. FY 2015-16	Base FY 2016-17	Target FY 2016-17
Effectiveness					
Amount of power sold to Portland General Electric in megawatt hours	85,749	72,248	82,100	85,500	85,500
Efficiency					
Amount of transfer of hydropower profits to General Fund	$300,000	$400,000	$400,000	$200,000	$200,000

Performance Measures

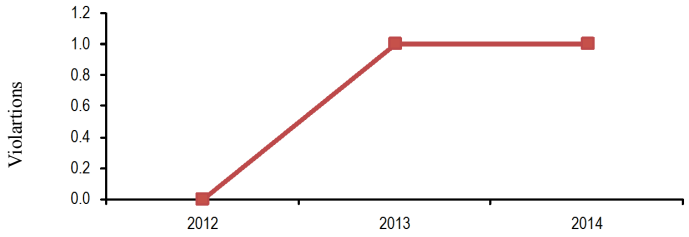
Percentage of Customer Accounts Paid Electronically

In FY 2014-15 about 59% of the Customers paid electronically compared to the goal of 50%.



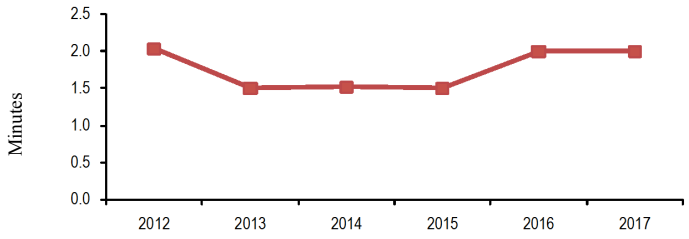
Number of Violations of State and Federal Drinking Water Quality Regulations

The bureau's goal is to have zero violations per year.



Average Time that Customers are on Hold

In FY 2014-15 the average hold time was 1:50 minutes compared to the goal of less than 2:00 minutes.



Portland Water Bureau

Summary of Bureau Budget

Public Utilities Service Area

	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17
Resources					
External Revenues					
Charges for Services	141,318,234	156,843,158	157,197,680	165,735,167	166,998,367
Intergovernmental	1,241,302	631,446	625,900	555,000	555,000
Bond & Note	0	92,617,900	0	91,840,000	91,840,000
Miscellaneous	6,394,840	6,010,660	2,998,545	3,425,941	3,425,941
Total External Revenues	**148,954,376**	**256,103,164**	**160,822,125**	**261,556,108**	**262,819,308**
Internal Revenues					
Fund Transfers - Revenue	225,975,038	183,227,629	168,551,265	178,771,555	179,521,555
Interagency Revenue	3,503,238	3,044,570	3,106,820	3,571,582	3,571,582
Total Internal Revenues	**229,478,276**	**186,272,199**	**171,658,085**	**182,343,137**	**183,093,137**
Beginning Fund Balance	267,340,950	174,815,226	215,498,834	163,347,033	163,347,033
Total Resources	**$645,773,602**	**$617,190,589**	**$547,979,044**	**$607,246,278**	**$609,259,478**
Requirements					
Bureau Expenditures					
Personnel Services	57,538,978	58,660,238	64,220,153	66,370,426	67,451,672
External Materials and Services	23,069,431	26,127,739	30,233,201	28,834,132	29,766,086
Internal Materials and Services	18,990,322	19,376,986	19,825,776	20,238,172	20,238,172
Capital Outlay	89,174,747	53,421,017	39,262,900	55,882,000	55,882,000
Total Bureau Expenditures	**188,773,478**	**157,585,980**	**153,542,030**	**171,324,730**	**173,337,930**
Fund Expenditures					
Debt Service	50,905,676	55,855,404	56,631,137	60,696,893	60,696,893
Contingency	0	0	103,140,850	94,396,389	94,396,389
Fund Transfers - Expense	231,279,222	188,704,911	174,864,251	185,377,804	185,377,804
Debt Service Reserves	0	0	38,638,949	43,278,349	43,278,349
Total Fund Expenditures	**282,184,898**	**244,560,315**	**373,275,187**	**383,749,435**	**383,749,435**
Ending Fund Balance	174,815,226	215,044,294	21,161,827	52,172,113	52,172,113
Total Requirements	**$645,773,602**	**$617,190,589**	**$547,979,044**	**$607,246,278**	**$609,259,478**
Programs					
Administration & Support	4,060,680	9,960,200	30,610,573	32,440,728	33,550,828
Customer Service	19,307,912	16,855,181	19,431,772	20,534,528	20,910,980
Distribution	70,280,447	73,221,521	65,506,134	58,796,920	58,856,394
Hydroelectric Power	601,752	473,773	925,667	797,725	797,725
Hydroelectric Power Administration	(2)	0	0	0	0
Regulatory Compliance	23,296,268	6,919,173	8,522,835	9,189,095	9,549,995
Supply	5,585,638	6,534,310	9,458,132	9,460,945	9,507,745
Transmission & Terminal Storage	61,525,580	40,731,817	16,295,183	37,154,458	37,202,232
Treatment	4,115,203	2,890,005	2,791,734	2,950,331	2,962,031
Total Programs	**188,773,478**	**$157,585,980**	**$153,542,030**	**$171,324,730**	**$173,337,930**

This table summarizes project expenses by capital programs. Only projects that are budgeted within the five-year capital plan are displayed.

Bureau Capital Program / Project	Prior Years	Revised FY 2015-16	Requested FY 2016-17	Capital Plan FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	5-Year Total
Customer Service								
Security and Emergency Mgt	0	63,000	66,000	66,000	66,000	66,000	66,000	330,000
Total Customer Service	**0**	**63,000**	**66,000**	**66,000**	**66,000**	**66,000**	**66,000**	**330,000**
Distribution								
Cornell Road Services to Macleay	77,510	607,000	652,000	1,000	0	0	0	653,000
Council Crest Tank Roof	0	95,000	163,000	442,000	0	0	0	605,000
Distribution Mains	0	16,273,650	14,276,000	16,499,000	13,650,000	15,735,000	20,000,000	80,160,000
Field Support	0	3,696,000	3,855,000	3,932,000	3,932,000	3,976,000	3,976,000	19,671,000
Fulton Pump Station Improvements	5,430,416	7,730,000	4,215,000	0	0	0	0	4,215,000
Greenleaf Pump Station	243,370	300,000	140,000	1,000,000	40,000	0	0	1,180,000
Hydrants	0	1,312,500	1,369,000	1,369,000	1,369,000	1,369,000	1,369,000	6,845,000
Interstate Facility Rehabilitation	43,901,214	4,498,000	400,000	0	0	0	0	400,000
Meters	0	1,092,000	1,139,000	1,139,000	1,139,000	1,139,000	1,139,000	5,695,000
N Jantzen Ave west of Pavilion	49,685	59,000	1,135,000	15,000	0	0	0	1,150,000
Penridge Mains	0	0	300,000	230,000	2,000,000	0	0	2,530,000
Pump Stations and Tanks	0	1,457,000	1,413,000	788,000	1,610,000	3,286,000	3,286,000	10,383,000
SE Flavel St from Henderson	54,458	543,000	5,000	0	0	0	0	5,000
Services	0	4,357,500	4,545,000	4,545,000	4,545,000	4,545,000	4,545,000	22,725,000
SW Bancroft Terr near Terwilliger	98,100	78,000	306,000	0	0	0	0	306,000
SW Flower Terrace at Dosch	10,520	60,000	458,000	23,000	0	0	0	481,000
SW Nevada and Macadam	65,902	284,000	5,000	0	0	0	0	5,000
SW Vista Ave from Spring St to Laurel St	12,359	0	493,000	298,000	0	0	0	791,000
Verde Vista PS Improvements	0	65,000	65,000	100,000	800,000	65,000	0	1,030,000
Willamette Blvd Bridge Main Replacement	0	0	250,000	860,000	440,000	2,670,000	280,000	4,500,000
Willamette River Pipe Crossing	805,229	2,020,000	2,520,000	12,450,000	39,700,000	100,000	0	54,770,000
Total Distribution	**50,748,763**	**44,527,650**	**37,704,000**	**43,691,000**	**69,225,000**	**32,885,000**	**34,595,000**	**218,100,000**
Regulatory Compliance								
Water Quality and Regulatory	0	1,858,500	1,964,000	2,328,000	2,278,000	2,278,000	2,278,000	11,126,000
Water Quality Lab Remodel	0	0	400,000	50,000	0	0	0	450,000
Total Regulatory Compliance	**0**	**1,858,500**	**2,364,000**	**2,378,000**	**2,278,000**	**2,278,000**	**2,278,000**	**11,576,000**
Supply								
Bull Run Watershed	0	1,143,600	392,000	96,000	2,278,000	3,417,000	3,500,000	9,683,000
Dam 1 Needle Valve Replacement	0	0	370,000	2,430,000	460,000	0	0	3,260,000
Groundwater	0	493,500	515,000	570,000	570,000	570,000	1,000,000	3,225,000
Groundwater Electrical Supply	349,959	1,670,000	525,000	0	0	0	0	525,000
Headworks Septic System Replacement	0	0	65,000	410,000	0	0	0	475,000
Microwave Communications System	0	0	518,000	1,626,000	0	0	0	2,144,000
Road 10 MP 3.0 - 4.6	136,812	960,000	1,165,000	0	0	0	0	1,165,000
Road 10 MP 4.6 - 6.2	41,709	371,000	858,000	0	0	0	0	858,000

Portland Water Bureau

CIP Summary

Public Utilities Service Area

This table summarizes project expenses by capital programs. Only projects that are budgeted within the five-year capital plan are displayed.

Bureau Capital Program / Project	Prior Years	Revised FY 2015-16	Requested FY 2016-17	Capital Plan FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	5-Year Total
Road 10H MP 10.95 to 12.56	0	120,000	161,000	1,018,000	0	0	0	1,179,000
Road 10R MP 28.77 to 31.85	0	60,000	200,000	740,000	1,100,000	0	0	2,040,000
Total Supply	**528,480**	**4,818,100**	**4,769,000**	**6,890,000**	**4,408,000**	**3,987,000**	**4,500,000**	**24,554,000**
Support								
Planning	0	2,184,000	2,278,000	2,848,000	2,848,000	2,848,000	2,848,000	13,670,000
Total Support	**0**	**2,184,000**	**2,278,000**	**2,848,000**	**2,848,000**	**2,848,000**	**2,848,000**	**13,670,000**
Transmission/Terminal Storage								
Conduits and Transmission Mains	0	126,000	1,104,000	2,848,000	5,684,000	15,645,000	15,645,000	40,926,000
Gresham Conduit 2 Trestle Upgrades	0	0	250,000	655,000	230,000	0	0	1,135,000
Rockwood PUD Meter	79,990	400,000	5,000	0	0	0	0	5,000
Tabor Reservoir Adjustments	1,793,621	4,337,000	2,800,000	159,000	0	0	0	2,959,000
Terminal Reservoirs	0	105,000	110,000	110,000	110,000	110,000	110,000	550,000
Washington Park	14,062,747	4,910,000	31,000,000	50,000,000	31,000,000	19,000,000	4,500,000	135,500,000
Total Transmission/Terminal Storage	**15,936,358**	**9,878,000**	**35,269,000**	**53,772,000**	**37,024,000**	**34,755,000**	**20,255,000**	**181,075,000**
Treatment								
Chlorine Scrubber Replacement	0	0	85,000	400,000	0	0	0	485,000
Headworks Generator Improvements	43,556	285,500	300,000	890,000	145,000	0	0	1,335,000
Treatment	0	0	55,000	55,000	548,000	10,952,000	10,952,000	22,562,000
Total Treatment	**43,556**	**285,500**	**440,000**	**1,345,000**	**693,000**	**10,952,000**	**10,952,000**	**24,382,000**
Total Requirements	**67,257,157**	**63,614,750**	**82,890,000**	**110,990,000**	**116,542,000**	**87,771,000**	**75,494,000**	**473,687,000**

		Salary Range		Revised FY 2015-16		Requested No DP FY 2016-17		Requested FY 2016-17	
Class	Title	Minimum	Maximum	No.	Amount	No.	Amount	No.	Amount
30000062	Accountant I	41,579	59,779	1.00	59,784	1.00	59,784	1.00	59,784
30000063	Accountant II	54,371	68,453	3.00	189,843	3.00	195,939	3.00	195,939
30000064	Accountant III	59,862	75,296	1.00	73,116	1.00	74,936	1.00	74,936
30000560	Accountant, Systems	62,795	83,720	1.00	74,820	1.00	77,625	1.00	77,625
30000434	Administrative Assistant	49,275	75,899	6.00	417,053	6.00	423,789	6.00	423,789
30000433	Administrative Specialist, Sr	45,885	70,637	4.00	263,554	4.00	267,736	4.00	267,736
30000436	Administrative Supervisor I	59,800	79,726	2.00	144,516	2.00	146,514	2.00	146,514
30000437	Administrative Supervisor II	62,795	83,720	1.00	83,724	1.00	83,724	1.00	83,724
30000203	Applications Analyst II-Generalist	62,795	83,720	1.00	75,605	1.00	78,700	1.00	78,700
30000204	Applications Analyst III-Generalist	69,285	92,498	3.00	263,880	3.00	269,944	3.00	269,944
30000207	Applications Analyst IV-Generalist	72,800	97,386	2.25	194,410	2.25	200,715	2.25	200,715
30000102	Automotive Equip Oper II: Sewer Vacuum	47,382	57,054	1.00	47,388	1.00	55,392	1.00	55,392
30000104	Automotive Equip Oper II: Tractor-Trailr	47,382	57,054	1.00	57,060	1.00	57,060	1.00	57,060
30000101	Automotive Equipment Oper I	44,616	54,080	13.00	694,646	13.00	701,980	13.00	701,980
30000441	Business Operations Manager	82,098	109,346	1.00	99,672	1.00	102,741	1.00	102,741
30000442	Business Operations Manager, Sr	101,962	142,397	1.00	142,392	1.00	142,392	1.00	142,392
30000440	Business Operations Supervisor	72,800	97,386	1.00	97,380	1.00	97,380	1.00	97,380
30000449	Business Systems Analyst, Sr	69,285	92,498	2.00	184,992	2.00	184,992	2.00	184,992
30000331	CAD Analyst	67,309	85,946	1.00	85,944	1.00	85,944	1.00	85,944
30000329	CAD Technician II	55,411	70,699	4.00	267,528	4.00	267,528	4.00	267,528
30000330	CAD Technician III	67,309	85,946	1.00	85,944	1.00	85,944	1.00	85,944
30000454	Capital Improvmnt Program Planning Supvr	82,098	109,346	1.00	109,344	1.00	109,344	1.00	109,344
30000399	Capital Project Manager I	67,309	85,946	3.00	257,832	3.00	257,832	3.00	257,832
30000686	Capital Project Manager II	72,800	97,386	1.00	97,380	1.00	97,380	1.00	97,380
30000687	Capital Project Manager III	76,294	102,544	1.00	102,540	1.00	102,540	1.00	102,540
30000110	Carpenter	56,243	62,920	3.00	183,692	3.00	188,444	3.00	188,444
30000493	Community Outreach & Informtn Rep, Sr	65,957	87,963	2.00	161,437	2.00	167,773	2.00	167,773
30000107	Concrete Finisher	56,243	62,920	2.00	125,832	2.00	125,832	2.00	125,832
30000507	Conservation Program Coordinator, Sr	69,285	92,498	1.00	87,321	1.00	90,897	1.00	90,897
30000105	Construction Equipment Operator	47,507	60,674	19.00	1,152,768	19.00	1,152,768	19.00	1,152,768
30000455	Contracts Dev & Review Administrator	72,800	97,386	1.00	97,380	1.00	97,380	1.00	97,380
30000017	Customer Accounts Specialist I	36,962	53,290	38.00	1,893,252	38.00	1,920,020	38.00	1,920,020
30000018	Customer Accounts Specialist II	44,075	58,406	9.00	507,324	9.00	512,356	9.00	512,356
30000445	Customer Service Supervisor	69,285	92,498	5.00	431,232	5.00	436,816	5.00	436,816
30000732	Development Supervisor I	69,285	92,498	1.00	92,496	1.00	92,496	1.00	92,496
30000577	Economist, Principal	82,098	109,346	1.00	109,344	1.00	109,344	1.00	109,344
30000635	Electrical/Instrumentation Supervisor	76,294	102,544	1.00	102,540	1.00	102,540	1.00	102,540
30000116	Electrician	70,366	75,941	5.00	375,504	5.00	379,680	6.00	455,616
30000685	Engineer, Chief - Water Bureau	112,195	160,618	1.00	146,016	1.00	151,505	1.00	151,505
30000682	Engineer, Principal	102,502	136,677	6.00	785,892	6.00	785,903	6.00	785,903
30000680	Engineer, Sr	88,733	118,290	15.00	1,761,959	15.00	1,766,799	15.00	1,766,799
30000681	Engineer, Supervising	95,368	127,171	5.00	595,128	5.00	598,678	5.00	598,678
30000364	Engineer-Chemical/Environmental	88,462	107,515	2.00	195,984	2.00	195,984	2.00	195,984
30000365	Engineer-Civil	88,462	107,515	14.00	1,496,313	14.00	1,503,145	13.50	1,449,385
30000366	Engineer-Electrical	88,462	107,515	1.00	107,520	1.00	107,520	1.00	107,520
30000358	Engineering Associate, Sr-Civil	76,502	97,531	16.00	1,502,466	16.00	1,518,879	16.00	1,518,879
30000353	Engineering Associate-Civil	62,878	84,240	5.00	347,400	5.00	358,974	5.00	358,974
30000355	Engineering Associate-Mechanical	62,878	84,240	1.00	62,880	1.00	65,480	1.00	65,480
30000696	Engineering Survey Manager	76,294	102,544	1.00	102,540	1.00	102,540	1.00	102,540
30000325	Engineering Technician II	55,411	70,699	7.00	468,366	7.00	473,920	9.00	615,328

		Salary Range		Revised FY 2015-16		Requested No DP FY 2016-17		Requested FY 2016-17	
Class	Title	Minimum	Maximum	No.	Amount	No.	Amount	No.	Amount
30000326	Engineering Technician III	67,309	85,946	3.00	249,780	3.00	252,111	4.00	338,055
30000662	Environmental Program Coordinator	65,957	87,963	1.00	87,960	1.00	87,960	1.00	87,960
30000663	Environmental Program Manager	72,800	97,386	1.00	93,204	1.00	96,702	1.00	96,702
30000664	Environmental Program Manager, Sr	82,098	109,346	1.00	109,344	1.00	109,344	1.00	109,344
30000661	Environmental Program Specialist	59,800	79,726	2.00	134,080	2.00	139,575	2.00	139,575
30001908	Environmental Spec-Wildlife Biologist	67,309	85,946	1.00	83,578	1.00	85,944	1.00	85,944
30000339	Environmental Specialist-Generalist	67,309	85,946	6.00	472,338	6.00	478,628	6.00	478,628
30000337	Environmental Technician I	41,350	55,411	2.00	86,952	2.00	89,064	2.00	89,064
30000338	Environmental Technician II	55,411	70,699	3.00	194,843	3.00	196,824	3.00	196,824
30000567	Financial Analyst	62,795	83,720	2.00	155,828	2.00	159,744	2.00	159,744
30000569	Financial Analyst, Principal	82,098	109,346	2.00	218,688	2.00	218,688	2.00	218,688
30000568	Financial Analyst, Sr	69,285	92,498	3.00	258,132	3.00	266,604	3.00	266,604
30000127	General Mechanic	51,022	63,586	2.00	126,240	2.00	127,176	2.00	127,176
30000341	GIS Technician I	41,350	55,411	1.00	55,416	1.00	55,416	1.00	55,416
30000342	GIS Technician II	55,411	70,699	6.00	416,391	6.00	422,243	6.00	422,243
30000343	GIS Technician III	67,309	85,946	2.00	171,888	2.00	171,888	2.00	171,888
30000373	Graphics Designer III	67,309	85,946	1.00	85,944	1.00	85,944	1.00	85,944
30000252	Horticulturist	48,048	58,032	0.00	0	0.00	0	1.00	58,032
30000657	Hydroelectric Power Project Manager	82,098	109,346	1.00	109,344	1.00	109,344	1.00	109,344
30000658	Hydroelectric Power Project Mgr, Asst	72,800	97,386	1.00	96,432	1.00	97,143	1.00	97,143
30000114	Industrial Painter	56,243	62,920	2.00	125,832	2.00	125,832	2.00	125,832
30000115	Industrial Painter, Lead	58,989	66,040	1.00	66,036	1.00	66,036	1.00	66,036
30000603	Inf Syst Analyst IV(Supvr)-Gen	72,800	97,386	1.00	97,380	1.00	97,380	1.00	97,380
30000218	Inf Syst Analyst, Principal-Gen	82,098	109,346	1.00	98,412	1.00	102,108	1.00	102,108
30000239	Instrument Technician	70,366	75,941	6.00	450,048	6.00	455,152	6.00	455,152
30001408	Instrumentation & Security Systems Supvr	69,285	92,498	1.00	92,496	1.00	92,496	1.00	92,496
30001283	Laboratory Analyst II	50,003	65,998	2.00	132,000	2.00	132,000	2.00	132,000
30001284	Laboratory Analytical Specialist	57,013	75,712	4.00	302,832	4.00	302,832	5.00	378,540
30001285	Laboratory Coordinator	59,176	83,491	1.00	83,496	1.00	83,496	2.00	166,992
30000670	Laboratory Manager	82,098	109,346	1.00	94,992	1.00	97,917	1.00	97,917
30000644	Maintenance Planner/Scheduler	59,800	79,726	3.00	219,786	3.00	225,254	3.00	225,254
30000073	Maintenance Worker	31,200	31,200	1.00	31,200	1.00	31,200	1.00	31,200
30000451	Management Analyst	62,795	83,720	5.00	393,888	5.00	402,102	6.00	464,898
30000453	Management Analyst, Principal	82,098	109,346	2.00	218,688	2.00	218,688	2.00	218,688
30000452	Management Analyst, Sr	69,285	92,498	3.00	277,488	3.00	277,488	3.00	277,488
30000450	Management Assistant	49,275	75,899	5.00	322,770	5.00	334,170	5.00	334,170
30000693	Mapping & GIS Supervisor	76,294	102,544	1.00	102,540	1.00	102,540	1.00	102,540
30000978	Mapping Data Technician II	67,309	85,946	1.00	85,944	1.00	85,944	1.00	85,944
30000653	Mechanical Systems Supervisor-Water,Sr	76,294	102,544	1.00	102,540	1.00	102,540	1.00	102,540
30000012	Office Support Specialist II	34,445	49,462	2.00	83,904	2.00	86,976	2.00	86,976
30000013	Office Support Specialist III	44,075	58,406	3.00	160,884	3.00	160,884	3.00	160,884
30000153	Operating Engineer II	51,584	66,664	7.00	365,604	7.00	402,864	7.00	402,864
30000154	Operating Engineer III	54,184	70,034	10.00	668,616	10.00	678,016	10.00	678,016
30000759	Parks Maintenance Supervisor	62,795	83,720	1.00	80,442	1.00	83,264	1.00	83,264
30000081	Parks Technician	46,530	52,874	5.00	264,360	5.00	264,360	5.00	264,360
30000398	Planner, Sr City-Water Resources	67,309	85,946	1.00	85,944	1.00	85,944	1.00	85,944
30000464	Program Coordinator	65,957	87,963	4.00	298,428	4.00	301,644	4.00	301,644
30000465	Program Manager	69,285	92,498	4.00	354,615	4.00	361,986	4.00	361,986
30000466	Program Manager, Sr	82,098	109,346	4.00	437,376	4.00	437,376	4.00	437,376
30000463	Program Specialist	59,800	79,726	3.00	202,601	3.00	210,541	3.00	210,541

		Salary Range		Revised FY 2015-16		Requested No DP FY 2016-17		Requested FY 2016-17	
Class	Title	Minimum	Maximum	No.	Amount	No.	Amount	No.	Amount
30000462	Program Specialist, Assistant	49,275	75,899	2.00	107,050	2.00	111,450	2.00	111,450
30000698	Property Acquisition & Services Manager	69,285	92,498	1.00	92,496	1.00	92,496	1.00	92,496
30000497	Public Information Manager	76,294	102,544	1.00	95,016	1.00	98,256	1.00	98,256
30000495	Public Information Officer	69,285	92,498	1.00	89,814	1.00	92,496	3.00	231,072
30000691	Public Works Inspection Manager	72,800	97,386	1.00	97,380	1.00	97,380	1.00	97,380
30000228	Public Works Inspector	62,150	71,032	2.00	142,056	2.00	142,056	2.00	142,056
30000229	Public Works Inspector, Sr	67,434	79,435	5.00	385,200	5.00	385,200	5.00	385,200
30000630	Public Works Supervisor II	62,795	83,720	8.00	632,001	8.00	646,742	8.00	646,742
30000403	Remittance Technician	36,962	51,709	1.00	51,708	1.00	51,708	1.00	51,708
30000349	Right of Way Agent II	55,411	70,699	1.00	61,068	1.00	63,568	1.00	63,568
30000482	Risk Specialist, Sr	65,957	87,963	1.00	65,952	1.00	65,952	1.00	65,952
30000486	Safety & Risk Officer II	76,294	102,544	1.00	91,254	1.00	94,992	1.00	94,992
30000645	Security Supervisor	62,795	83,720	1.00	83,724	1.00	83,724	1.00	83,724
30000029	Service Dispatcher	36,962	53,290	2.00	99,426	2.00	103,014	2.00	103,014
30000054	Storekeeper/Acquisition Specialist II	47,133	57,637	2.00	115,272	2.00	115,272	2.00	115,272
30000056	Storekeeper/Acquisition Specialist III	53,248	66,186	1.00	66,192	1.00	66,192	1.00	66,192
30000468	Stores System Supervisor II	62,795	83,720	1.00	73,260	1.00	76,260	1.00	76,260
30000224	Surveying Aide II	50,461	58,739	2.00	117,480	2.00	117,480	2.00	117,480
30000695	Surveying Supvr/Water Rights Examiner	72,800	97,386	1.00	97,380	1.00	97,380	1.00	97,380
30000225	Surveyor I	57,637	71,635	2.00	129,276	2.00	129,276	2.00	129,276
30000226	Surveyor II	72,634	84,573	1.00	84,576	1.00	84,576	1.00	84,576
30001558	Timekeeping Specialist	37,024	53,206	1.00	53,208	1.00	53,208	1.00	53,208
30000532	Training & Development Officer	69,285	92,498	1.00	81,096	1.00	84,420	1.00	84,420
30001037	Utility Locator	51,501	55,411	6.00	332,496	6.00	332,496	6.00	332,496
30000076	Utility Worker I	44,054	47,902	3.00	143,712	3.00	143,712	3.00	143,712
30000077	Utility Worker II	47,902	51,501	22.00	1,122,566	22.00	1,130,974	22.00	1,130,974
30000075	Utility Worker II, Apprentice	36,046	47,632	25.00	995,176	25.00	1,123,990	25.00	1,123,990
30000438	Water Administrative Manager	76,294	102,544	1.00	102,540	1.00	102,540	1.00	102,540
30001534	Water Bureau Emergency Management Mgr	72,800	97,386	1.00	87,129	1.00	90,698	1.00	90,698
30000512	Water Conservation Program Coordinator	65,957	87,963	2.00	159,774	2.00	162,720	2.00	162,720
30000514	Water Conservation Program Manager	72,800	97,386	1.00	97,380	1.00	97,380	1.00	97,380
30000646	Water Consortium Conservation Pg Mgr	69,285	92,498	1.00	92,496	1.00	92,496	1.00	92,496
30000655	Water Group Manager	101,962	142,397	4.00	569,568	4.00	569,568	4.00	569,568
30000652	Water Maintenance Supervisor, Sr	76,294	102,544	3.00	307,620	3.00	307,620	3.00	307,620
30000133	Water Meter Reader I	39,520	50,211	11.00	540,489	11.00	546,408	11.00	546,408
30000134	Water Meter Reader II	48,443	56,805	1.00	56,808	1.00	56,808	1.00	56,808
30002158	Water Meter Technician I	47,902	51,501	5.00	257,520	5.00	257,520	5.00	257,520
30000142	Water Meter Technician II	48,901	56,805	4.00	218,034	4.00	219,324	4.00	219,324
30000143	Water Meter Technician III	58,989	64,106	6.00	384,624	6.00	384,624	6.00	384,624
30000654	Water Operations & Support Manager	94,931	128,627	1.00	128,628	1.00	128,628	1.00	128,628
30000145	Water Operations Mechanic	56,867	63,877	22.00	1,395,872	22.00	1,399,550	22.00	1,399,550
30000144	Water Operations Mechanic, Apprentice	44,054	59,800	9.00	500,629	9.00	531,852	9.00	531,852
30000651	Water Quality Inspection Supervisor	65,957	87,963	1.00	87,960	1.00	87,960	1.00	87,960
30000140	Water Quality Inspector II	54,184	70,034	4.00	280,128	4.00	280,128	4.00	280,128
30000141	Water Quality Inspector III	56,867	73,486	1.00	73,488	1.00	73,488	1.00	73,488
30000647	Water Resource & Urban Affairs Coord	69,285	92,498	1.00	89,004	1.00	92,205	1.00	92,205
30000656	Water Resources Program Manager	72,800	97,386	2.00	182,937	2.00	189,492	2.00	189,492
30000138	Water Security Specialist	47,902	51,501	9.00	459,936	9.00	462,330	10.00	513,834
30000135	Water Service Inspector I	48,443	56,805	7.00	396,036	7.00	397,116	7.00	397,116
30000136	Water Service Inspector II	52,354	61,360	1.00	61,356	1.00	61,356	1.00	61,356

Class	Title	Salary Range Minimum	Salary Range Maximum	Revised FY 2015-16 No.	Revised FY 2015-16 Amount	Requested No DP FY 2016-17 No.	Requested No DP FY 2016-17 Amount	Requested FY 2016-17 No.	Requested FY 2016-17 Amount
30000650	Water Treatment Operations Supervisor	76,294	102,544	1.00	78,123	1.00	81,325	1.00	81,325
30000147	Water Treatment Operator II	54,184	70,034	10.00	653,160	10.00	663,096	10.00	663,096
30000424	Water Utility Director	141,898	203,341	1.00	180,000	1.00	186,765	1.00	186,765
30000078	Water Utility Worker, Sr	48,651	54,080	1.00	54,084	1.00	54,084	1.00	54,084
30001081	Watershed & Conduit Supvr	76,294	102,544	1.00	102,540	1.00	102,540	1.00	102,540
30000149	Watershed Specialist I	42,016	51,501	4.00	206,016	4.00	206,016	4.00	206,016
30000151	Watershed Specialist II	48,651	54,080	2.00	108,168	2.00	108,168	2.00	108,168
30001308	Watershed Specialist III	58,011	65,042	2.00	130,080	2.00	130,080	2.00	130,080
TOTAL FULL-TIME POSITIONS				562.25	40,118,419	562.25	40,701,055	572.75	41,420,695
30000433	Administrative Specialist, Sr	45,885	70,637	0.85	60,948	0.85	60,948	0.85	60,948
30000017	Customer Accounts Specialist I	36,962	53,290	3.60	162,456	2.70	146,028	2.70	146,028
30000365	Engineer-Civil	88,462	107,515	0.50	54,564	0.50	54,564	0.50	54,564
30000452	Management Analyst, Sr	69,285	92,498	0.90	50,249	0.75	70,416	0.75	70,416
30000012	Office Support Specialist II	34,445	49,462	1.80	75,516	1.00	50,208	1.00	50,208
TOTAL PART-TIME POSITIONS				7.65	403,733	5.80	382,164	5.80	382,164
TOTAL LIMITED TERM POSITIONS				0.00	0	0.00	0	0.00	0
GRAND TOTAL				569.90	40,522,152	568.05	41,083,219	578.55	41,802,859

	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17	Proposed FY 2016-17
Resources						
Charges for Services	138,123,720	152,177,916	154,697,680	162,735,167	163,998,367	
Intergovernmental	741,286	631,446	526,000	555,000	555,000	
Miscellaneous	1,615,517	1,628,648	1,260,983	1,336,793	1,336,793	
Total External Revenues	**140,480,523**	**154,438,010**	**156,484,663**	**164,626,960**	**165,890,160**	
Fund Transfers - Revenue	136,495,178	97,998,697	81,123,641	96,251,725	97,001,725	
Interagency Revenue	3,449,785	2,976,787	3,044,820	3,506,082	3,506,082	
Total Internal Revenues	**139,944,963**	**100,975,484**	**84,168,461**	**99,757,807**	**100,507,807**	
Beginning Fund Balance	73,534,527	69,566,152	74,915,802	67,365,246	67,365,246	
Total Resources	**353,960,013**	**324,979,646**	**315,568,926**	**331,750,013**	**333,763,213**	
Requirements						
Personnel Services	57,146,033	58,377,638	63,845,498	66,013,278	67,094,524	
External Materials and Services	22,868,328	26,055,082	29,817,832	28,550,432	29,482,386	
Internal Materials and Services	18,603,258	19,258,470	19,690,133	20,081,295	20,081,295	
Capital Outlay	89,135,511	53,421,017	39,163,000	55,882,000	55,882,000	
Total Bureau Expenditures	**187,753,130**	**157,112,207**	**152,516,463**	**170,527,005**	**172,540,205**	
Debt Service	2,460,073	2,939,511	3,083,802	3,913,132	3,913,132	
Contingency	0	0	66,968,414	68,534,110	68,534,110	
Fund Transfers - Expense	94,180,658	90,030,366	93,000,247	88,775,766	88,775,766	
Total Fund Expenditures	**96,640,731**	**92,969,877**	**163,052,463**	**161,223,008**	**161,223,008**	
Ending Fund Balance	69,566,152	74,897,562	0	0	0	
Total Requirements	**353,960,013**	**324,979,646**	**315,568,926**	**331,750,013**	**333,763,213**	

Fund Overview

The Water Fund is the operating fund of the Portland Water Bureau. With the exception of debt service, all expenditures in this fund are for operation, maintenance, and capital assets. Receipts from the sale of water are the primary revenue source for the Water Fund.

Managing Agency Portland Water Bureau

Significant Changes from Prior Year

The FY 2016-17 Requested Budget includes an increase in Water Fund resources by approximately $18.2 million from the FY 2015-16 Revised Budget. The changes in resources include increases in water sales revenue due to increases in water rates, and other water fees and charges of $9.4 million. Cash transfers from the Construction Fund increased by $15.9 million from the prior year, primarily for higher capital expenditures planned in FY 2016-17. The beginning fund balance decreased by $7.6 million as planned.

Total bureau expenditures are higher in the FY 2016-17 Requested Budget than FY 2015-16 Revised Budget due to increased capital expenditure, offset by decreased transfers for FY 2016-17. Cash transfers decreased $4.2 million, which includes $8.8 million less transferred to the Construction Fund primarily for cash financed capital, and $0.1 million less in interagency transfers. These decreases are offset by $4.1 million more transferred to the Sinking Fund, $0.6 million more in General Fund overhead. Debt service costs increased by $0.8 million, which includes $0.6 million for debt issuance costs in fall 2016, and $0.2 million for increased POBS costs.

	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17	Proposed FY 2016-17
Resources						
Charges for Services	3,194,514	4,665,242	2,500,000	3,000,000	3,000,000	
Bond & Note	0	87,262,625	0	85,324,000	85,324,000	
Miscellaneous	586,165	491,780	184,103	547,249	547,249	
Total External Revenues	**3,780,679**	**92,419,647**	**2,684,103**	**88,871,249**	**88,871,249**	
Fund Transfers - Revenue	43,819,099	35,137,247	36,434,682	27,644,061	27,644,061	
Total Internal Revenues	**43,819,099**	**35,137,247**	**36,434,682**	**27,644,061**	**27,644,061**	
Beginning Fund Balance	148,082,129	59,047,848	88,351,143	46,346,287	46,346,287	
Total Resources	**195,681,907**	**186,604,742**	**127,469,928**	**162,861,597**	**162,861,597**	
Requirements						
Total Bureau Expenditures	**0**	**0**	**0**	**0**	**0**	
Contingency	0	0	25,244,824	14,437,759	14,437,759	
Fund Transfers - Expense	136,634,059	98,253,599	81,123,641	96,251,725	96,251,725	
Total Fund Expenditures	**136,634,059**	**98,253,599**	**106,368,465**	**110,689,484**	**110,689,484**	
Ending Fund Balance	59,047,848	88,351,143	21,101,463	52,172,113	52,172,113	
Total Requirements	**195,681,907**	**186,604,742**	**127,469,928**	**162,861,597**	**162,861,597**	

Fund Overview

The Water Construction Fund is the capital fund of the Portland Water Bureau. This fund pays for equipment and capital expenditures for the water system, including ongoing capital repair and replacement, enhancements, and large and nonrecurring additions to the system.

Managing Agency Portland Water Bureau

Significant Changes from Prior Year

Revenue bond sales are planned for fall 2016 and will provide funding of $85.3 million to fund capital projects. The Water Fund will transfer $27.6 million to the Water Construction Fund to fund capital projects, a decrease of $8.8 million from the FY 2015-16 Revised Budget.

The Water Construction Fund will transfer $96.3 million to reimburse the Water Fund for direct and indirect capital costs, an increase of $15.1 million from the FY 2015-16 Revised Budget.

	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17	Proposed FY 2016-17
Resources						
Bond & Note	0	5,355,275	0	6,516,000	6,516,000	
Miscellaneous	160,373	195,623	161,359	220,499	220,499	
Total External Revenues	**160,373**	**5,550,898**	**161,359**	**6,736,499**	**6,736,499**	
Fund Transfers - Revenue	45,492,592	50,070,357	50,692,942	54,750,769	54,750,769	
Total Internal Revenues	**45,492,592**	**50,070,357**	**50,692,942**	**54,750,769**	**54,750,769**	
Beginning Fund Balance	31,522,795	31,447,450	36,863,089	36,749,800	36,749,800	
Total Resources	**77,175,760**	**87,068,705**	**87,717,390**	**98,237,068**	**98,237,068**	
Requirements						
Total Bureau Expenditures	**0**	**0**	**0**	**0**	**0**	
Debt Service	45,728,310	50,205,616	50,854,301	54,971,268	54,971,268	
Debt Service Reserves	0	0	36,802,725	43,265,800	43,265,800	
Total Fund Expenditures	**45,728,310**	**50,205,616**	**87,657,026**	**98,237,068**	**98,237,068**	
Ending Fund Balance	31,447,450	36,863,089	60,364	0	0	
Total Requirements	**77,175,760**	**87,068,705**	**87,717,390**	**98,237,068**	**98,237,068**	

Fund Overview

The Water Bond Sinking Fund pays for principal and interest on revenue bonds issued to finance water system improvements. The bond reserve accounts are maintained in the Water Bond Sinking Fund.

Managing Agency Portland Water Bureau

Significant Changes from Prior Year

The primary resource in the FY 2016-17 budget is a transfer from the Water Fund of $54.8 million to pay for debt service. A bond reserve account of $6.5 million will be established with the bond sale planned for fall 2016.

Debt Service will increase in FY 2016-17 as a result of the bond sale.

Portland Water Bureau

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Customer Service								
Security and Emergency Mgt			**Total Project Cost:**	Ongoing			**Area:**	Undetermined
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Maintenance & Repair
Project Description								
The bureau is committed to increasing flexibility and preparedness to meet future security challenges, to enhance security throughout the water system and to modernize security practices and infrastructure. Projects funded by this budget will include physical security improvements to major and smaller facilities as well as improved security in the overall water distribution system and control/communications system. In FY 2016-17, the funding requested is for any needed replacement of surveillance equipment. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue, and other construction fund revenues such as system development charges and interest earnings.								
Total Expenditures	0	63,000	66,000	66,000	66,000	66,000	66,000	330,000
Net Operations and Maintenance Costs			0	0	0	0	0	
Distribution								
Cornell Road Services to Macleay			**Total Project Cost:**	830,000			**Area:**	Northwest
	Confidence:	Low	**Original Cost:**	830,000			**Objective:**	Expansion
Project Description								
Portland Water Bureau agreed to construct a new water main and activate about 10 service accounts for property owners receiving water from a water main owned by Parks and constructed in 1931. This project will replace this main with about 1.5 miles polyethylene plastic main in Cornell Road from Skyline Boulevard. In FY 2016-17, the project will begin construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.								
Total Expenditures	77,510	607,000	652,000	1,000	0	0	0	653,000
Net Operations and Maintenance Costs			0	0	0	0	0	
Council Crest Tank Roof			**Total Project Cost:**	700,000			**Area:**	Southwest
	Confidence:	Low	**Original Cost:**	700,000			**Objective:**	Replacement
Project Description								
Council Crest Tank is the highest-elevation tank in southwest Portland and serves approximately 1,300 customers with no backup gravity supply. Due to corrosion of the exposed structure, there is a risk of roof collapse from the effects of an earthquake or an ice or wind storm. Roof failure could result in a long-term boil water notice, frequent outages, and reactive repair costs. This project will replace the Council Crest Tank roof and upper wall shell. In FY 2016-17, this project will continue design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.								
Total Expenditures	0	95,000	163,000	442,000	0	0	0	605,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**

Distribution Mains

Total Project Cost: Ongoing **Area:** Citywide

Confidence: Optimal **Original Cost:** Ongoing **Objective:** Replacement

Project Description

The bureau is committed to improving maintenance of the water system infrastructure, including repairs, replacements and upgrades. This program supports rehabilitation and replacement of substandard mains; expansion due to private lands development; increased water supply for fire protection; improved water quality; and water system upgrades due to local improvement districts and street improvements. The Portland Water Bureau uses a risk-based, reliability-centered approach to identify, catalog and prioritize projects to ensure minimal disruption to customers. Distribution main replacements also include appurtenances such as fire hydrants, valves, pressure regulators, service branches, and other facilities. Small projects, under $125,000, are normally completed by bureau personnel. Projects with construction estimates of more than $125,000 are typically put out for bid. Many projects in this program provide for the relocation and adjustment of water facilities to accommodate storm drainage and sewer pipelines constructed by the Bureau of Environmental Services, roadway configuration changes, pavement overlays, and bridge improvements for the Portland Bureau of Transportation and the Oregon Department of Transportation. Other bureaus reimburse a portion of the costs based on the age of the existing water facility. In FY 2016-17, the bureau expects to work on about 50 minor distribution mains projects. Recently, there has been an increase in the number of petition mains supporting new development. Also, the bureau expects to complete design of several larger mains including NW Saltzman Rd Main Replacement and SW Commonwealth Ave East of Cross. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue, and other construction fund revenues such as system development charges and interest earnings as well as interagency revenue.

Total Expenditures	0	16,273,650	14,276,000	16,499,000	13,650,000	15,735,000	20,000,000	80,160,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Field Support

Total Project Cost: Ongoing **Area:** Citywide

Confidence: Optimal **Original Cost:** Ongoing **Objective:** Maintenance & Repair

Project Description

This program funds the supplies, equipment and facilities that the bureau field crews use to maintain and operate the water system. The bureau's fleet of construction equipment and vehicles are managed through this program. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue, and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	3,696,000	3,855,000	3,932,000	3,932,000	3,976,000	3,976,000	19,671,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Fulton Pump Station Improvements

Total Project Cost: 17,375,500 **Area:** Southwest

Confidence: High **Original Cost:** 11,647,000 **Objective:** Replacement

Project Description

The 2006 Burlingame Service Area Supply Facility Master Plan recommended that the existing Fulton Pump Station be replaced or rehabilitated to mitigate the risk of an extended outage due to failure. Major studies recommending this project include the Burlingame Service Area Supply Facilities Master Plan (2006), the Distribution System Master Plan (2007), and the Fulton Pump Station Improvements Project Basis of Design Report (2007). This project replaced the 12-million-gallon per day Fulton Pump Station with a new facility located in Willamette Park. In FY 2016-17, this project will complete construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	5,430,416	7,730,000	4,215,000	0	0	0	0	4,215,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Greenleaf Pump Station			**Total Project Cost:**	1,710,000			**Area:**	Northwest
	Confidence:	Low	**Original Cost:**	1,710,000			**Objective:**	Replacement

Project Description

Greenleaf Pump Station will be improved to allow for the demolition of the Penridge Tank. Parts of the Penridge tank are corroded and PWB recommends the Greenleaf pump station improvements in lieu of replacing the tank. The station will be fitted with energy-efficient pumps for normal distribution needs and two large pumps for fire protection. In FY 2016-17, this project will complete design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	243,370	300,000	140,000	1,000,000	40,000	0	0	1,180,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Hydrants			**Total Project Cost:**	Ongoing			**Area:**	Citywide
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Replacement

Project Description

There are approximately 16,000 fire hydrants connected to the Portland water system. These hydrants allow Portland the flexibility and preparedness to meet the challenge of a fire emergency through coordination with the Portland Fire & Rescue Bureau. This subprogram replaces fire hydrants that are nonstandard or no longer repairable to increase efficiency. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges, interagency reimbursements and interest earnings.

Total Expenditures	0	1,312,500	1,369,000	1,369,000	1,369,000	1,369,000	1,369,000	6,845,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Interstate Facility Rehabilitation			**Total Project Cost:**	49,370,000			**Area:**	Central City
	Confidence:	High	**Original Cost:**	49,383,000			**Objective:**	Replacement

Project Description

This project built two new buildings to replace the 85-year-old PWB Maintenance Building, which served as the main office and warehouse. Site improvements to the 11-acre campus improved vehicle and employee circulation and brought the property up to current code requirements for stormwater management and landscaping as well as seismic resiliency. Master planning from 2000 –2006 developed the baseline requirements for current and long-term needs. In FY 2016-17, this project will be completed and closed out. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	43,901,214	4,498,000	400,000	0	0	0	0	400,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Meters			**Total Project Cost:**	Ongoing			**Area:**	Citywide
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Replacement

Project Description

The bureau has thousands of meters that monitor the quantity of water flowing through the system. The bureau purchases about 8,500 meters annually. These meters are tools to effectively and efficiently manage the allocation of costs of service to public agencies, commercial enterprises, and other non-residential customers. The bureau is also installing automated meter-reading devices and non-skid access lids where applicable. The bureau objective is to maintain metering devices to read within 3% of actual values. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue, BES contribution, and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	1,092,000	1,139,000	1,139,000	1,139,000	1,139,000	1,139,000	5,695,000
Net Operations and Maintenance Costs			0	0	0	0	0	

N Jantzen Ave west of Pavilion			**Total Project Cost:**	1,290,000			**Area:**	North
	Confidence:	Low	**Original Cost:**	1,290,000			**Objective:**	Replacement

Project Description

This replacement main is recommended for following reasons: (1) as many as six nonstandard services lack complete documentation and documented backflow devices, (2) the nonstandard services have leak histories and other possible undocumented private connections, (3) the asbestos-concrete main (while not affecting water quality) requires specialized training and personal protection for repairs. This project will correct services without backflow devices and replace approximately 2,200 ft. of substandard asbestos-concrete and plastic water lines. The project will also install 6 fire hydrants. In FY 2016-17, this program will complete design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	49,685	59,000	1,135,000	15,000	0	0	0	1,150,000
Net Operations and Maintenance Costs			0	0	0	0	0	

NEW - Penridge Mains			**Total Project Cost:**	2,530,000			**Area:**	Northwest
	Confidence:	Low	**Original Cost:**				**Objective:**	Replacement

Project Description

This project will replace approximately 8,000 feet of existing main and renew 41 1-inch domestic services and install 7 hydrants. This work will allow the Penridge Tank to be removed from service without further diminishing already substandard fire flows. The Greenleaf Pump Station is being replaced in a separate project. In FY 2016-17, the project will begin design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	300,000	230,000	2,000,000	0	0	2,530,000
Net Operations and Maintenance Costs								

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Pump Stations and Tanks			**Total Project Cost:**	Ongoing			**Area:**	Citywide
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Replacement

Project Description

This program maintains a large variety of infrastructure consisting of water storage tanks, pumps, and pump and control facilities. The bureau uses a reliability-centered maintenance analysis to prioritize projects in these areas. The focus for this program continues to be the replacement of the remote telemetry units at over 140 remote sites. The existing units are over 15 years old and are becoming obsolete. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue, and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	1,457,000	1,413,000	788,000	1,610,000	3,286,000	3,286,000	10,383,000
Net Operations and Maintenance Costs			0	0	0	0	0	

SE Flavel St from Henderson			**Total Project Cost:**	640,000			**Area:**	Southeast
	Confidence:	Optimal	**Original Cost:**	640,000			**Objective:**	Replacement

Project Description

Two existing sections of dead-end 4-inch mains were replaced with 1,800 feet of 12-inch and 8-inch mains to stop leaks, improve water quality and enhance water available to suppress fires. In FY 2016-17, the project will close out. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	54,458	543,000	5,000	0	0	0	0	5,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Services			**Total Project Cost:**	Ongoing			**Area:**	Citywide
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Maintenance & Repair

Project Description

A service is the connection between the water main and any given customer's service meter. Service connections are always performed by bureau crews. This program funds installation and upgrade of about 1,000 water service connections annually. The funds facilitate construction of replacement water services requested by customers for new development as well as redevelopment. A fee is collected for new service requests to partially reimburse the bureau's costs. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges, interagency revenue, and interest earnings.

Total Expenditures	0	4,357,500	4,545,000	4,545,000	4,545,000	4,545,000	4,545,000	22,725,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
SW Bancroft Terr near Terwilliger			**Total Project Cost:**	490,000			**Area:**	Southwest
	Confidence:	Low	**Original Cost:**	490,000			**Objective:**	Replacement

Project Description

The existing 2-inch galvanized main has had 9 recorded leaks, with 5 occurring in the last 3 years. Abandoning the main and easement reduces risk of leaks and property damage. The project will install about 800 feet of main. In FY 2016-17, this project will complete construction and close. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	98,100	78,000	306,000	0	0	0	0	306,000
Net Operations and Maintenance Costs			0	0	0	0	0	

SW Flower Terrace at Dosch			**Total Project Cost:**	541,000			**Area:**	Southwest
	Confidence:	Low	**Original Cost:**	550,000			**Objective:**	Replacement

Project Description

The existing 4-inch main is in poor condition and has had 2 leaks in the past 7 years. The repair crew has recommended replacement. This project will replace 1,490 feet of 4-inch cast iron main with 6-inch main, renew 35 1-inch services, and install 3 hydrants. In FY 2016-17, this project will begin construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	10,520	60,000	458,000	23,000	0	0	0	481,000
Net Operations and Maintenance Costs			0	0	0	0	0	

SW Nevada and Macadam			**Total Project Cost:**	660,000			**Area:**	Southwest
	Confidence:	Optimal	**Original Cost:**	690,000			**Objective:**	Replacement

Project Description

This project replaced 370 feet of 12-inch main in SW Nevada Street with an 8-inch main, from Macadam Avenue west to Fulton Pump Station. The previous 12-inch steel main was installed in 1942 and was in poor condition. This replacement is being coordinated with the Fulton Pump Station Replacement project (W01358) which will impact the existing distribution mains in Nevada Street. Work was required in Macadam Avenue in order to abandon the existing distribution main in Nevada Street, and limit the extent of customer water outages. In FY 2016-17, this project will close out. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	65,902	284,000	5,000	0	0	0	0	5,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
NEW - SW Vista Ave from Spring St to Laurel St			**Total Project Cost:**	866,000			**Area:**	Southwest
	Confidence:	Low	**Original Cost:**				**Objective:**	Maintenance & Repair
Project Description								
The existing 8-inch main has had 6 recorded leaks with 4 occurring in the last 2 years. Maintenance and Construction recommends replacement. Cast iron pipe is more brittle than ductile iron pipe and therefore is more likely to break. PWB management decided to extend replacement to other sections of a similar age. This project will replace approximately 1,600 feet of mains, various hydrants and services. In FY 2016-17, the project will continue design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.								
Total Expenditures	12,359	0	493,000	298,000	0	0	0	791,000
Net Operations and Maintenance Costs								
Verde Vista PS Improvements			**Total Project Cost:**	1,040,000			**Area:**	Southwest
	Confidence:	Low	**Original Cost:**	1,040,000			**Objective:**	Maintenance & Repair
Project Description								
This project increases system reliability to the Northwest Hills of Portland, by providing the pumping capacity to meet future peak-day demands for the Northwest Hills Service Area when Hoyt Pump Station supply is out of service. Improvements recommended by PWB will allow the station to deliver water to the Pittock and Calvary Tanks, and the existing Burnside Pump Station allowing it to be decommissioned. The Verde Vista station will be fitted with two additional pumps and piping improvements. In FY 2016-17, the project will continue design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.								
Total Expenditures	0	65,000	65,000	100,000	800,000	65,000	0	1,030,000
Net Operations and Maintenance Costs			0	0	0	0	0	
NEW - Willamette Blvd Bridge Main Replacement			**Total Project Cost:**	4,500,000			**Area:**	North
	Confidence:	Low	**Original Cost:**				**Objective:**	Replacement
Project Description								
The 20-inch pipeline on the N Willamette Boulevard Bridge is the primary supply to approximately 5,000 services in North Portland and to the St Johns pipeline crossing of the Willamette River. Both the existing 20-inch pipeline on the bridge and the bridge are in poor condition. The pipeline is vulnerable to failure due to condition and also due to a seismic event. This project will install 950 feet of 24-inch pipe in 42-inch casing, plus an additional 200 feet of un-cased 24-inch pipe to connect to the existing system. PWB will abandon the existing 20 inch pipeline crossing the Willamette Boulevard Bridge. In FY 2016-17, the project will begin design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.								
Total Expenditures	0	0	250,000	860,000	440,000	2,670,000	280,000	4,500,000
Net Operations and Maintenance Costs								

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**

Willamette River Pipe Crossing

Total Project Cost: 56,150,000 **Area:** Central City

Confidence: Low **Original Cost:** 57,000,000 **Objective:** Replacement

Project Description

The project provides for the replacement of major pipelines to strengthen the transmission link between Powell Butte and the service areas west of the Willamette River, including downtown and the storage reservoirs at Washington Park. The project will include construction of a new seismically strengthened river crossing to replace one or two of the existing Willamette River crossings, and new transmission piping on both sides of the Willamette River. In FY 2016-17, this project will continue design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	805,229	2,020,000	2,520,000	12,450,000	39,700,000	100,000	0	54,770,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Regulatory Compliance

Water Quality and Regulatory

Total Project Cost: Ongoing **Area:** Undetermined

Confidence: High **Original Cost:** Ongoing **Objective:** Mandated

Project Description

The bureau recognizes the Bull Run Watershed as a diverse ecosystem. The bureau is committed to preserving this habitat and complying with federal regulations using practical, locally driven solutions. Many of the projects in this subprogram respond to the Clean Water Act and Endangered Species Act, including the implementation of the Bull Run Habitat Conservation Plan as adopted by City Council and approved by the National Marine Fisheries Service. Consistent with Habitat Conservation Plan commitments, this program funds easements, purchases land, and supports projects jointly conducted with other watershed partners. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	1,858,500	1,964,000	2,328,000	2,278,000	2,278,000	2,278,000	11,126,000
Net Operations and Maintenance Costs			0	0	0	0	0	

NEW - Water Quality Lab Remodel

Total Project Cost: 450,000 **Area:** Central City

Confidence: Low **Original Cost:** **Objective:** Expansion

Project Description

The conditions of the Bull Run Treatment Variance (BRTV) require Portland to maintain an ongoing monitoring program for Cryptosporidium. To date, the Water Bureau has been meeting the BRTV monitoring conditions by shipping water samples across the country to accredited private contract laboratories--of which only a handful exist. It has become increasingly challenging to meet PWB's weekly monitoring requirements, combined with the projected decline in the commercial Cryptosporidium lab industry, it is necessary for PWB to secure its own in-house capabilities and expertise in order to ensure ongoing compliance. This project will create an in-house laboratory section within the existing Water Quality Laboratory at Interstate to support the requirements of the Bull Run Treatment Variance. In FY 2016-17, the project will complete design and construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue, and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	400,000	50,000	0	0	0	450,000
Net Operations and Maintenance Costs								

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Supply								
Bull Run Watershed			**Total Project Cost:**	Ongoing			**Area:**	Undetermined
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Maintenance & Repair

Project Description

The Bull Run Watershed provides one of the highest quality drinking water sources in the United States. The bureau is committed to updating the Bull Run Watershed protection and maintenance procedures and agreements based on the 2007 Bull Run Agreement with the Mt. Hood National Forest. Funds in this program maintain, improve, and protect the watershed roads and facilities. Many of these facilities are between 50-70 years old. Projects address the proper functioning of watershed assets, such as the dams and the intake and treatment facilities. Proper functioning of these assets helps the bureau to continue to operate an unfiltered system. In FY 2016-17, the bureau will continue discussions about the formal land exchange with the U.S. Forest Service. The proposed land exchange would convey approximately 2,800 acres of National Forest System land to the City of Portland in exchange for approximately 2,500 acres of City-owned lands within the Bull Run Watershed Management Unit. The purpose of the proposed land exchange is to create a better alignment of land ownership responsibilities with the respective missions of the agencies. The proposed exchange would consolidate City holdings to lands surrounding the two water supply reservoirs and associated infrastructure. The U.S. Department of Agriculture Forest Service would acquire forested uplands that are valuable for natural resource protection and ecosystem management. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	1,143,600	392,000	96,000	2,278,000	3,417,000	3,500,000	9,683,000
Net Operations and Maintenance Costs			0	0	0	0	0	

NEW - Dam 1 Needle Valve Replacement			**Total Project Cost:**	3,260,000			**Area:**	Undetermined
	Confidence:	Low	**Original Cost:**				**Objective:**	Replacement

Project Description

The needle flow control valves are 89 years old and were refurbished 24 years ago. The valves are antiquated, leaky, difficult to open/close and pose a risk to operator safety. This project will replace the three existing needle valves, actuators and control panels at Dam 1 with new jet-flow gate valves or fixed-cone valves. In FY 2016-17, the project will begin design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	370,000	2,430,000	460,000	0	0	3,260,000
Net Operations and Maintenance Costs								

Groundwater			**Total Project Cost:**	Ongoing			**Area:**	Northeast
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Efficiency

Project Description

The Columbia South Shore Well Field is Portland's alternative supply of water should the Bull Run Watershed supply be interrupted for any reason. The well field's primary use is to supplement PWB peak demand in summers. If flow from Bull Run source must be interrupted or augmented due to storm-caused turbidity, drought conditions, or other causes, then the bureau pumps groundwater. The groundwater supply also allows the bureau to continue to operate without constructing and operating a filtration facility. Projects funded in this program improve the maintenance of this aging infrastructure, including repairs, selective replacements and upgrades. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	493,500	515,000	570,000	570,000	570,000	1,000,000	3,225,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Groundwater Electrical Supply			**Total Project Cost:**	2,350,000			**Area:**	Northeast
	Confidence:	High	**Original Cost:**	2,200,000			**Objective:**	Maintenance & Repair

Project Description

The 2000 PWB System Vulnerability Analysis and later reports identified a vulnerability for electrical failures at PWB's Groundwater Pump Station. The cost of a possible transformer failure is significant, mainly due to the time needed for transformer replacement. The 2009 Portland Water Bureau Groundwater Pump Station 115kV/4160V Electrical Systems Vulnerability Reduction document studied alternatives for addressing the risk. Other major studies that addressed this issue are the 2008 Groundwater Vulnerability to Flooding and Electrical Outages Project Concept Report and the 2008 Suggestions for Additional GW Vulnerability Reduction Assessment. This project consists of design and construction of a new high-voltage transformer and other components to complete a double-ended electrical substation at the Groundwater Pump Station. It will also include a new main breaker replacement and purchase of selected spare components. In FY 2016-17, this project will begin construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	349,959	1,670,000	525,000	0	0	0	0	525,000
Net Operations and Maintenance Costs			0	0	0	0	0	

NEW - Headworks Septic System Replacement			**Total Project Cost:**	470,000			**Area:**	Undetermined
	Confidence:	Low	**Original Cost:**				**Objective:**	Replacement

Project Description

The Headworks septic system currently does not meet the current requirements on site wastewater disposal. The Headworks Facilities Plan includes two projects that would require replacement of the existing septic system. Replacing the septic system now will prepare the Headworks site for future replacement of Headworks facilities, provide a system that is reliable and meets current state requirements, and eliminates a drain field close to the river. This project will replace the existing septic system (tank and drain field) at Headworks with a new subsurface sewage disposal system including a pump station, force main and drain field at Kaiser Park. In FY 2016-17, the project will begin design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	65,000	410,000	0	0	0	475,000
Net Operations and Maintenance Costs								

NEW - Microwave Communications System			**Total Project Cost:**	2,214,000			**Area:**	Undetermined
	Confidence:	Low	**Original Cost:**				**Objective:**	Replacement

Project Description

The PWB microwave equipment is obsolete and parts are no longer available from the manufacturer. In addition, the Bureau of Technology Services recommends changing the system to increase the reliability and bandwidth. In the past year, there have been two equipment failures on the Council Crest tower, which has resulted in data loss. This project will replace existing microwave communications equipment on 7 towers and facilities throughout the system with new equipment. In FY 2016-17, the project will begin construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	518,000	1,626,000	0	0	0	2,144,000
Net Operations and Maintenance Costs								

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Road 10 MP 3.0 - 4.6			**Total Project Cost:**	1,346,000			**Area:**	Citywide
	Confidence:	Moderate	**Original Cost:**	1,120,000			**Objective:**	Maintenance & Repair

Project Description

This road is in poor condition and the road width does not meet the current design standard. It is another segment of Road 10 that is part of the primary access road to the bureau's Headworks facility. It is used regularly by heavy vehicles delivering supplies and by PWB staff reporting to work daily. This project will grind existing pavement, restore road subgrade, pave, and stripe 1.6 miles of Road 10. The road will be brought up to current standards for width using fill and walls to add an average of 3 feet of width to the segment. Approximately 9 culverts will be replaced. In FY 2016-17, this project will complete construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	136,812	960,000	1,165,000	0	0	0	0	1,165,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Road 10 MP 4.6 - 6.2			**Total Project Cost:**	1,280,000			**Area:**	Citywide
	Confidence:	Low	**Original Cost:**	1,280,000			**Objective:**	Maintenance & Repair

Project Description

This segment of Road 10 is part of the primary access to the bureau's Headworks facility. It also provides a secondary egress from the watershed, should the main route be blocked. This important road assessed as in "Poor" condition and the road width does not meet the current design standard. This project will grind existing pavement, restore road subgrade, pave, and stripe 2 miles of Road 10. The road will be brought up to current standards for width using fill and walls to add an average of 2 feet of width to the segment. Approximately 6 culverts will be replaced with aluminum alloy pipe. In FY 2016-17, this project will begin construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	41,709	371,000	858,000	0	0	0	0	858,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Road 10H MP 10.95 to 12.56			**Total Project Cost:**	1,250,000			**Area:**	Undetermined
	Confidence:	Low	**Original Cost:**	822,000			**Objective:**	Maintenance & Repair

Project Description

This segment of Road 10 provides access from Headworks to secondary egress from the watershed, should the main route be blocked. This secondary road is at the low end of fair condition and the road width does not meet the current design standard for this Class A road. This project is recommended by the 2012 Bull Run Roads Asset Management Plan. This project will grind existing pavement, restore road subgrade, pave, and stripe 1.61 miles of Road 10. The road condition assessment indicates the average width of this road meets the design standard, however isolated widening may be required. Current condition ratings indicate one culvert will also be replaced. Culvert inspection during design may indicate a need to replace more. In FY 2016-17, this project will complete design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	120,000	161,000	1,018,000	0	0	0	1,179,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Road 10R MP 28.77 to 31.85			**Total Project Cost:**	2,100,000			**Area:**	Undetermined
	Confidence:	Low	**Original Cost:**	2,100,000			**Objective:**	Maintenance & Repair

Project Description

This segment of Road 10 provides access from Bull Run Lake to secondary egress from the watershed, should the main route be blocked. This secondary road is considered at the low end of "Fair" condition with a remaining service life of approximately 5 years. This project is recommended by the 2012 Bull Run Roads Asset Management Plan. This project will grind existing pavement, restore road subgrade, reconstruct turnouts, pave, and stripe 3.08 miles of Road 10. The road meets the design width for this Class B segment; however several failures have occurred in turnouts designed to accommodate passing vehicles.The road condition assessment indicates the average width of this road meets the design standard, however isolated widening may be required. Current condition ratings indicate one culvert will be replaced. Culvert inspection during design may indicate the need to replace more. In FY 2016-17, this project will begin design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	60,000	200,000	740,000	1,100,000	0	0	2,040,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Support

Planning			**Total Project Cost:**	Ongoing			**Area:**	Undetermined
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Efficiency

Project Description

This program consists of general planning studies for projects needed to improve the operation of the water system. These include pressure zone adjustments, facility modifications, and system element studies. In FY 2016-17, the bureau will finalize a large-scale water system seismic analysis. The bureau will also continue studies on topics such as water quality, tank and pump station issues, groundwater upgrades, and Bull Run supply elements. The project funding is from water sales revenue.

Total Expenditures	0	2,184,000	2,278,000	2,848,000	2,848,000	2,848,000	2,848,000	13,670,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Transmission/Terminal Storage

Conduits and Transmission Mains			**Total Project Cost:**	Ongoing			**Area:**	Undetermined
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Maintenance & Repair

Project Description

The conduits that bring water to Portland from the Bull Run watershed are pipes 56 to 72 inches in diameter. This program funds repairs, replacements and upgrades to improve availability and accuracy of metered data from wholesale connections. Service to the City's wholesale customers is a key reason for the bureau's commitment to improve maintenance of this aging infrastructure. In future years, the bureau plans to rehabilitate 4 to 5 miles of conduits each year at an estimated cost of $4 to $5 million dollars per mile. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	126,000	1,104,000	2,848,000	5,684,000	15,645,000	15,645,000	40,926,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
NEW - Gresham Conduit 2 Trestle Upgrades			**Total Project Cost:**	1,150,000			**Area:**	Citywide
	Confidence:	Low	**Original Cost:**				**Objective:**	Maintenance & Repair

Project Description

This project will install 13 ring girders and scour protection on both the El Camino and Beaver Creek trestles. These improvements mitigate Conduit 2 failure risks due to seismic and flooding events, which will improve PWB's supply resiliency due to natural disasters. In FY 2016-17, the project will begin design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	250,000	655,000	230,000	0	0	1,135,000
Net Operations and Maintenance Costs								

Rockwood PUD Meter			**Total Project Cost:**	530,000			**Area:**	East
	Confidence:	High	**Original Cost:**	530,000			**Objective:**	Efficiency

Project Description

This project will design and construct a replacement meter vault outside of the traffic lanes to reduce risk. The existing vault houses a wholesale meter with instrumentation and requires the closure of multiple lanes to access. Due to width and height restrictions, the business case identifies a high risk exposure to injury to staff working in the vault. The new vault will be in the parking lane/sidewalk area and will contain a check valve. Piping will be installed to reconnect the supply main to the distribution main. In FY 2016-17, this project will complete construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	79,990	400,000	5,000	0	0	0	0	5,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Tabor Reservoir Adjustments			**Total Project Cost:**	8,152,700			**Area:**	Southeast
	Confidence:	High	**Original Cost:**	6,406,994			**Objective:**	Mandated

Project Description

This project has made adjustments to piping, structures and other features at Mt. Tabor in order to move storage elsewhere and physically disconnect the open reservoirs from the public water system for compliance with the federal LT2 rule. The adjustments were arranged around the historical structures to avoid damage. The project does not include disposition of the reservoirs after they have been disconnected from the public water system. Disposition of reservoirs has been determined through a public process. In FY 2016-17, this project will continue construction. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	1,793,621	4,337,000	2,800,000	159,000	0	0	0	2,959,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Terminal Reservoirs			**Total Project Cost:**	Ongoing			**Area:**	Southeast
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Mandated

Project Description

The Terminal Reservoirs program includes conveying water from the supply facilities to the retail distribution system. Major assets in this program include the the terminal reservoirs, such as those at Powell Butte, Kelly Butte, and Washington Park. The program provides for the rehabilitation, replacement, and expansion of smaller reservoir system assets. The program funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	105,000	110,000	110,000	110,000	110,000	110,000	550,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Washington Park			**Total Project Cost:**	170,100,000			**Area:**	West
	Confidence:	Low	**Original Cost:**	61,132,686			**Objective:**	Mandated

Project Description

The project will plan, design and construct a new seismically resilient buried reservoir to replace open Reservoir #3 at Washington Park. This project is part of compliance with the federal LT2 mandate to replace the open reservoirs. It is assumed that Reservoir #4 will be used as the overflow detention, dechlorination, and stormwater structure. The buried reservoir would be topped with a reflecting pond and historical features will be protected as much as possible. In FY 2016-17, this project will begin construction. Confidence level has been reduced to low given the geotechnical requirements. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	14,062,747	4,910,000	31,000,000	50,000,000	31,000,000	19,000,000	4,500,000	135,500,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Treatment

NEW - Chlorine Scrubber Replacement			**Total Project Cost:**	485,000			**Area:**	Citywide
	Confidence:	Low	**Original Cost:**				**Objective:**	Replacement

Project Description

This project will replace the existing liquid media chlorine scrubber with a new dry media chlorine scrubber at Headworks facility. The new dry scrubber unit reduces maintenance costs and considerably lowers the risk of a safety issue. In FY 2016-17, the project will begin design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	85,000	400,000	0	0	0	485,000
Net Operations and Maintenance Costs								

Capital Program		Revised	Requested	Capital Plan				
Project	**Prior Years**	**FY 2015-16**	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**5-Year Total**
Headworks Generator Improvements			**Total Project Cost:**	1,670,000			**Area:**	Citywide
	Confidence:	Low	**Original Cost:**	1,670,000			**Objective:**	Replacement

Project Description

The Headworks Facilities Plan recommended that PWB install a new emergency generator, switchgear and site electrical panels. The existing generator does not have sufficient capacity for current electrical needs. These improvements to the Headworks emergency generator, switchgear, and site electrical panels will provide the greatest risk reduction by mitigating three high-risk conditions. This recommended project will improve or replace the Headworks generator, fuel storage tank, and associated site electrical components. In FY 2016-17, this project will complete design. The project funding is from a combination of net proceeds from revenue bond sales, water sales revenue and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	43,556	285,500	300,000	890,000	145,000	0	0	1,335,000
Net Operations and Maintenance Costs			0	0	0	0	0	

Treatment			**Total Project Cost:**	Ongoing			**Area:**	Undetermined
	Confidence:	Optimal	**Original Cost:**	Ongoing			**Objective:**	Mandated

Project Description

The Treatment Program provides for meeting or exceeding the federal and state requirements for a public water system utilizing an unfiltered surface water source as well as a groundwater source. The program funding is from a combination of net proceeds from revenue bond sales, water sales revenue, and other construction fund revenues such as system development charges and interest earnings.

Total Expenditures	0	0	55,000	55,000	548,000	10,952,000	10,952,000	22,562,000
Net Operations and Maintenance Costs			0	0	0	0	0	


CITY OF PORTLAND, OREGON
1851

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 01 **Type:** Adds

Decision Package: WA_01 - Regulatory Monitoring **Program:** REGULATORY COMPLIANCE

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget	
EXPENDITURES								
Personnel Services	0	231,100	231,100	231,100	0	0	0	0
External Materials and Services	129,800	0	129,800	(231,100)	0	0	0	0
Contingency	0	0	0	0	0	0	0	0
TOTAL EXPENDITURES	**129,800**	**231,100**	**360,900**	**0**	**0**	**0**	**0**	**0**
REVENUES								
Taxes	0	0	0	0	0	0	0	0
Charges for Services	129,800	231,100	360,900	0	0	0	0	0
TOTAL REVENUES	**129,800**	**231,100**	**360,900**	**0**	**0**	**0**	**0**	**0**
FTE								
Full-Time Positions	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00
TOTAL FTE	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 01 **Type:** Adds

Decision Package: WA_01 - Regulatory Monitoring **Program:** REGULATORY COMPLIANCE

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget

Description:

Background

The purpose of this package is to add capabilities to the Portland Water Bureau's (PWB) existing Water Quality Laboratory to perform in-house Cryptosporidium analysis for the purposes of continuing to achieve compliance with the Bureau's Bull Run Treatment Variance (BRTV).

In 2012, the State of Oregon granted Portland a variance to the Long Term 2 Enhanced Surface Water Treatment (LT2) Rule requirements for the Bull Run source water. The conditions of the Bull Run Treatment Variance require Portland to maintain an ongoing monitoring program for Cryptosporidium. Water samples require Cryptosporidium analysis by a State-accredited laboratory approved to conduct EPA Method 1622/1623/1623.1. Failure to monitor would result in revocation of the variance; as a result, the PWB would be required to build a treatment plant for Cryptosporidium, which would cost an estimated $80 million.

To date, the PWB has been meeting the BRTV monitoring conditions by shipping water samples across the country to accredited private contract laboratories--of which only a handful exist. Many inherent issues and risks (mailing delays and lost samples) have made this type of arrangement increasingly challenging to meet PWB's weekly monitoring requirements. Furthermore, the commercial Crypto lab industry is projected to decline, which could result in lab closures, leaving the PWB with few choices of accredited labs or ability to control costs. Due to the risks, challenges and anticipated reduction in labs, it is necessary for PWB to secure its own in-house capabilities and expertise in order to ensure ongoing compliance and maintain a high-quality Bull Run Treatment Variance Program.

Request

This package includes 2.0 FTE (ongoing) within the Water Quality Laboratory to conduct Cryptosporidium analysis using the required EPA methods, as well as an additional, one-time $130,000 during FY 2016-17 for laboratory operating supplies. It is estimated to take up to one year to establish the lab, hire and train employees, and receive state accreditation prior to transferring from the contract lab sample analysis to in-house analysis. Therefore, FY 2016-17 would be the set-up year for the lab while the bureau continues to use professional services for the sample analysis requirements. In year two, the outside contracts will no longer be necessary, therefore, the funds formerly used for contracts will be used to fund the 2.0 FTE. In addition, cost savings will be realized on contract procurement and administration. By 2017-18, the in-house Crypto lab section will be fully operational. In the future, the PWB will be looking for efficiencies to further reduce costs, an opportunity from having the autonomy of an in-house lab.

The 2.0 FTEs would include one Laboratory Coordinator and one Laboratory Analytical Specialist, who would serve as the Principal Analyst and Analyst for EPA Method 1622/1623/1623.1, respectively. Two staff are necessary to provide adequate coverage and capacity for the monitoring program, which includes over 500 analytical tests per year. The staff would also conduct technical research and scientific investigation to support the variance, manage contracts, and analyze over 300 algae/zooplankton samples per year (a related area that has been underserved in PWB's laboratory).

Expected Results:

Compliance with State and Federal water quality and environmental regulations is one of the Bureau's strategic Performance Measures. The Water Bureau was the first water provider in the nation to achieve compliance with the Long Term 2 Enhanced Surface Water Treatment Rule through an alternative method, based on the high quality of the Bull Run source water.

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 02 **Type:** Adds

Decision Package: WA_02 - Community Information and Outreach **Program:** Support

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget	
EXPENDITURES								
Personnel Services	0	229,600	229,600	0	0	0	0	0
External Materials and Services	7,600	6,000	13,600	0	0	0	0	0
Contingency	0	0	0	0	0	0	0	0
TOTAL EXPENDITURES	**7,600**	**235,600**	**243,200**	**0**	**0**	**0**	**0**	**0**
REVENUES								
Charges for Services	7,600	235,600	243,200	0	0	0	0	0
TOTAL REVENUES	**7,600**	**235,600**	**243,200**	**0**	**0**	**0**	**0**	**0**
FTE								
Full-Time Positions	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00
TOTAL FTE	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 02 **Type:** Adds

Decision Package: WA_02 - Community Information and Outreach **Program:** Support

FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget

Description:

Background

The Portland Water Bureau's (PWB) Community Information and Outreach Group (Group) is a team of four professionals dedicated to increasing communications between the PWB and the Portland community.

The Group provides timely, accurate, transparent information about the bureau's projects and activities and it manages public information requests. It is also responsible for listening to and incorporating the thoughts and ideas of the public into bureau projects. Team members work to inform and assist the public on construction and maintenance projects as well as developing and implementing public involvement opportunities.

The bureau has recently invested in a communications director to oversee the Group and to write and implement a strategic communications plan that will allow the bureau to better connect to all its customers, reinforce its purpose, protect and increase the level of trust associated with our utility, and raise awareness of critical issues such as water efficiency and supply. The plan will also provide a road map for increasing public participation with the bureau, teach us more about community values and priorities, and gain acceptance on critical bureau projects.

Request

In order to increase outreach to traditionally underserved communities and build capacity for upcoming large Capital Improvement Projects (CIP), the Portland Water Bureau is requesting 2.0 FTE positions.

Equity

The Group does not currently work specifically on reaching out to minority populations, such as non-native speakers, new arrivals, and low-income households. Implementing audience-centered communications with these groups is critical as the city becomes more diverse. This position would identify and build relationships with existing community groups in targeted areas, review Bureau policies that impact the City's equity goals, and assist customer service efforts to increase participation in the low-income discount program by designing and carrying out a specialized outreach program.

Large CIP Outreach

Currently, 1.9 FTE positions handle outreach and communication for all large construction projects and assist on public involvement on medium and smaller projects as they are available. One of these positions also serves as webmaster (maintaining the website, creating content, tracking usage) and social media coordinator across all platforms, and provides internal communications (dispatch newsletter).

The Water Bureau has several large multi-year projects including the Willamette River Crossing and Washington Park reservoirs planned that are beyond the workload of the existing team. The new position will also grow the Group's capacity for digital design. No backup for website or social media currently exists and the current workload prevents the bureau from efficiently or effectively implementing communications to reach all customers.

Expected Results:

The Citizen's Utility Board memo regarding Input on Portland Water Bureau FY 2016-17 Budget Development dated January 5, 2016 directly addressed and supported the addition of Community Information and Outreach staff. It is a goal that the Water Bureau outreach and engagement efforts continue to strive to reach citizens in an equitable manner. Efforts to support the goal include a survey in 2016 to gather information from customers whose voices have historically been underrepresented including lower-income residents, people without access to the internet, and Portlanders with limited English proficiency.

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 03 **Type:** Adds

Decision Package: WA_03 - Infrastructure Maintenance **Program:** Customer Service

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget	
EXPENDITURES								
Personnel Services	0	282,346	282,346	0	0	0	0	0
External Materials and Services	2,400	7,854	10,254	0	0	0	0	0
Contingency	0	0	0	0	0	0	0	0
TOTAL EXPENDITURES	**2,400**	**290,200**	**292,600**	**0**	**0**	**0**	**0**	**0**
REVENUES								
Charges for Services	2,400	290,200	292,600	0	0	0	0	0
TOTAL REVENUES	**2,400**	**290,200**	**292,600**	**0**	**0**	**0**	**0**	**0**
FTE								
Full-Time Positions	0.00	3.50	3.50	0.00	0.00	0.00	0.00	0.00
TOTAL FTE	0.00	3.50	3.50	0.00	0.00	0.00	0.00	0.00

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 03 **Type:** Adds

Decision Package: WA_03 - Infrastructure Maintenance **Program:** Customer Service

FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget

Description:

Background:

This decision package is a response to the growing need to optimize the Portland Water Bureau's (PWB) approach to maintaining, upgrading, and protecting water system infrastructure. The PWB utilizes a Reliability Centered Maintenance (RCM) approach to maintaining assets in order to establish a safe minimum level of maintenance. This approach requires staff to perform regular predictive and preventive maintenance on key assets to reduce unexpected failures. In addition to preventative maintenance, the PWB has a robust CIP program that continues to add new assets that require maintenance. Many departments within the bureau are requesting additional resources in order to meet expectations of maintaining new and aging assets in a cost-effective manner.

Request:

The PWB is requesting 3.5 FTE to assist with the growing responsibility to maintain new and aging infrastructure in the water system.

Hydraulic Network Analysis (0.5 FTE)

The creation of a full-time Engineering Tech II is needed for updating the hydraulic network model to stay in sync with the actual water system as water main work and other projects are completed. The recently completed Water Audit and Wholesale Allocation studies both strongly suggest that the system demands be updated yearly, and due to the volume of shutdown reviews, direct field support work, and other requests, the full implementation has been slower than anticipated. Further, the number of identified pending model updates has been steadily increasing for almost three years. In order to complete the implementation and yearly updates to the new network model while continuing to perform other daily work, it is necessary to increase staffing levels. By shifting a Civil Engineer to half time and hiring a full-time Engineering Tech II, the group would be able to maintain the hydraulic network model and move forward with other projects. The model is used for capital facility planning, evaluating water system shutdowns, determining the geographic area affected by possible bacteriological contaminants estimating impacts of high-risk assets failures, and calculating water system demands to establish wholesale customer rates.

Facilities Maintenance (1.0 FTE)

Over the last three years, the Grounds crew has lost 2.0 FTE Horticulturists and 1.0 FTE Utility Worker positions due to City-wide budget cuts. This request is to reinstate one of the lost Horticulturist positions, to provide a higher level of landscape expertise, including technical pruning, plant identification, and design. Due to the loss of the Horticulturist positions, there is currently no one with that skill set in the Grounds Crew. The Grounds Crew, including this position, maintain all PWB grounds around facilities and properties, including but not limited to: Groundwater and Well Fields, Pump Stations, Terminal Reservoirs, Tanks, and Hydroparks. Recently completed facilities, such as those at Kelly Butte, require a higher level of grounds maintenance than the current Grounds crew is able to perform. While most of these projects are located on existing sites that were maintained in the past, the conditional use permits obtained for construction on these sites require a much higher level of horticultural expertise. In addition, the landscaping under these permits is much more extensive than in the past. Maintaining these areas significantly increases the amount of work necessary to meet the requirements of the permits, as well as the Bureau's goal of maintaining our properties at a level that meets community expectations.

Reliability Centered Maintenance (1.0 FTE)

The Electrical Shop provides O&M support for all infrastructure from Headworks to in-town operations, including our groundwater supply and Interstate buildings. They also provide electrical support on CIP projects from the Planning and Design phases to Construction. The bureau has been completing large capital projects which include significant new electrical systems that require maintenance. The primary role of the Electrician is to install, maintain, and troubleshoot electrical equipment used to operate the PWB's water system. The Electrical Shop is not adequately staffed to complete the scheduled predictive and preventative maintenance tasks, which has increased the backlog of electrical preventive maintenance tasks. The approval for an additional Electrician would help the PWB meet the requirements of an aggressive CIP program while providing an additional resource to satisfy the RCM maintenance needs. This new position would allow the Electrical Shop to put a greater focus on performing necessary predictive and preventive maintenance tasks. The anticipated result would be reducing the preventive maintenance (PM) backlog to reduce the risk of unexpected failures that are proven to be more costly to repair.

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 03 **Type:** Adds

Decision Package: WA_03 - Infrastructure Maintenance **Program:** Customer Service

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget

Description:

Security (1.0 FTE)

A Water Security Specialist is needed at the Interstate facility. The position will be a responder for intrusion alarms at nearby sites, and supports Interstate staff and contractors with keys and access. Currently, there is a gap in security at the Interstate Facility during daytime hours. The primary need is for perimeter security, building access control, and oversight of the PWB fleet and equipment. Due to a lack of personnel, the Security group is unable to keep up with the ongoing demand for a workday security presence. Further, employees have requested a security presence, especially during the early evenings, when many employees leave for the day. Funding this security position would help the bureau better meet State requirements in responding to water-related intrusion alarms in the area, improve response time to alarms and video observations, and assist with access control and issuing personnel keys at Interstate.

Expected Results:

Each position within this request assists the Water Bureau in reaching its strategic goals. Part of the Bureau's mission is to provide reliable and adequate water supply while maintaining the water system to provide sufficient quantities of high quality water to meet the needs of the community on an equitable, efficient and sustainable basis. In doing so, it is integral that the Bureau maintain the water system in a proactive, strategic and cost-effective manner. All of these functions tie directly to key service level indicators which ensure that the Bureau is meeting its goals to support its mission of reliably providing excellent quality water that meets or exceeds regulations.

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 04 **Type:** Adds

Decision Package: WA_04 - Information Processing **Program:** Customer Service

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget	
EXPENDITURES								
Personnel Services	0	338,200	338,200	0	0	0	0	0
External Materials and Services	10,000	18,300	28,300	0	0	0	0	0
Contingency	0	0	0	0	0	0	0	0
TOTAL EXPENDITURES	**10,000**	**356,500**	**366,500**	**0**	**0**	**0**	**0**	**0**
REVENUES								
Charges for Services	10,000	356,500	366,500	0	0	0	0	0
TOTAL REVENUES	**10,000**	**356,500**	**366,500**	**0**	**0**	**0**	**0**	**0**
FTE								
Full-Time Positions	0.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00
TOTAL FTE	0.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 04 **Type:** Adds

Decision Package: WA_04 - Information Processing **Program:** Customer Service

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget

Description:

Background

This decision package is a response to the increased workload experienced by our Development Services and Record Keeping staff. The quantity of development-related work for the Development Services staff has been increasing sharply: From FY 11-12 to FY 14-15, residential building permit reviews have increased 62%, commercial building permit reviews have increased 47%, public works permit reviews have increased 92%, and the number of Water work orders generated has increased by 200%. Revenues from System Development Changes (SDCs), new services, and mains have increased 46% or $4.0 million from FY 2012-13 to FY 2014-15. Also, the projected revenues from permit fees and engineering plan reviews increased by $100,000 in the current fiscal year. Those revenues are projected to increase an additional $100,000 in FY 2016-17. Furthermore, the bureau has over two million Word, Excel, PowerPoint, Outlook mail documents and PDF documents currently residing on the file server and is experiencing a growth rate of approximately 20%per year. A majority of these files are not being managed against any specific retention schedule as many retention schedules have not been reviewed or updated for 20 years.

Request

In order to maintain customer service and records management standards, the Water Bureau is requesting 3.0 FTE positions.

Development Services

The addition of the Engineering Tech III and Engineering Tech II (2.0 FTE) would result in a reallocation and rebalancing of staff work responsibilities to enable staff to meet the City's mandatory deadlines for development review.
Development Services (DS) staff review plans, impose requirements, and determine and collect appropriate fees and charges for residential building permits, commercial building permits, land use applications, public works permits, right-of-way (street opening) permits, and street vacations. In addition, DS staff evaluate developer plans to determine the size and scope of needed water system work to be done. In FY 14-15 the DS staff collected $12.6 M for development-initiated water work (services, main extensions, system development charges). DS staff must also respond in a timely fashion to a wide range of questions and concerns from customers, conferring with customers and other PWB and City bureau staff via emails, phone calls, and face-to-face meetings. Virtually all DS staff duties must be accomplished under the City's mandatory development review turnaround times. Moreover, DS staff also staff a customer service desk in the Bureau of Development Services' Development Services Center, Monday through Friday, 8:00am to 5:00pm.

Records Management

A Management Analyst position will work with bureau staff to identify the required records retention period based on administrative, legal, operational and historic criteria, and move the appropriate documents with the appropriate retention schedule into the Enterprise Content Management system. The addition of the Management Analyst in the Records/GIS section will also positively affect the department's ability to review all bureau specific retention schedules annually and update them through the established Auditor's Office approval process; ensure the Bureau is meeting established records management standards (City, State, Federal, others); ensure the bureau is meeting the needs of the Legal Records Management Program as required by City Attorney's Office; process 75 cubic feet of Engineering Project records annually for archiving and disposition; and add 100,000 documents per year to the Enterprise Content Management system.

Expected Results:

Delivering high quality customer service by responding to customer requests in a timely manner is an important part of the Portland Water Bureau's mission. This decision package will assist the Bureau in meeting City mandatory development review timelines as well as continuing to reach and improve upon its customer service goals. Further, meeting Federal, State and local regulations on records management will also improve our response time for requests, and reducing the staff time in answering them while helping us deliver high quality service in a cost-efficient manner.

Decision Package Summary

Bureau: Portland Water Bureau **Priority:** 05 **Type:** Adds

Decision Package: WA_05 - Tabor Preservation Project **Program:** Support

	FY 2016-17 Requested 1 Time DP	FY 2016-17 Requested Ongoing DP	FY 2016-17 Requested Budget	FY 2017-18 Estimated Budget	FY 2018-19 Estimated Budget	FY 2019-20 Estimated Budget	FY 2020-21 Estimated Budget	
EXPENDITURES								
External Materials and Services	0	750,000	750,000	0	0	0	0	0
Contingency	0	0	0	0	0	0	0	0
TOTAL EXPENDITURES	**0**	**750,000**	**750,000**	**0**	**0**	**0**	**0**	**0**
REVENUES								
Fund Transfers - Revenue	0	750,000	750,000	0	0	0	0	0
TOTAL REVENUES	**0**	**750,000**	**750,000**	**0**	**0**	**0**	**0**	**0**

Description:

Background

Resolution No. 37146 was adopted by City Council on July 15, 2015 to maintain, repair and preserve the Mount Tabor Reservoirs following disconnection. The Portland Water Bureau (PWB), and other City agencies as are necessary, including any City agency that may be responsible for managing the reservoirs in the future, are directed to work with the Mt. Tabor Neighborhood Association (MTNA) to prioritize maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report to be accomplished over a four-year period beginning in FY 2016-2017.

Request

The PWB is submitting this request to the General Fund to allocate $750,000 for FY 2016-17 and $4 million total over the next four years to the maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report.

The PWB and other City bureaus as are necessary are directed to collaborate with the MTNA to develop an interpretive program and interpretive center that tells the history of the Mt. Tabor reservoirs and the City's water system.

The PWB will confer and consult with the MTNA before planned work and after emergency events in the park which have potential impact on trees with the intent to minimize the visual impact on the treed character of the park.

The PWB and other City bureaus as appropriate will coordinate and collaborate with the MTNA on a joint Semi-annual written Report to City Council documenting compliance with this Resolution, as well as annual presentations to City Council and the Portland Utility Board, including a Final Summary Report to be submitted by December 31, 2020 to City Council regarding the implementation of the maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report.

Expected Results:

This request fulfills the City's commitment to MTNA related to the 2009 Mount Tabor Reservoirs Historic Structure Report.

FY 2015-16 Project Ranking Summary Sheet

Bureau	Project Name	Total Project Cost	GF Request	Total Net O&M	Failure Mode #1 TOTAL SCORE	Failure Mode #2 TOTAL SCORE	Highest TOTAL SCORE = (consequence * likelihood) * benefit bonus
Water	Mt Tabor Reservoirs Historic Preservation	$4,800,000	$750,000	$750,000	30.0	0.0	30.0
0	0	$0	$0	$0	0.0	0.0	0.0
0	0	$0	$0	$0	0.0	0.0	0.0
0	0	$0	$0	$0	0.0	0.0	0.0
0	0	$0	$0	$0	0.0	0.0	0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0

City of Portland - Project #1

MAJOR MAINTENANCE & ASSET REPLACEMENT PROJECT REQUEST FORM FY 2015-16

Bureau Contact Info:	Mary Ellen Collentine/ Jeff Leighton	
Bureau:	Water	
Project Name:	Mt Tabor Reservoirs Historic Preservation	
Estimated Total Project Cost:	$ 4,800,000	over 4.5 years
General Fund Request:	$ 750,000	FY 16-17
Other Resources:	none	enter fund source information
Total Net Operations and Maintenance Impact:	$ 750,000	*
Net Operations and Maintenance Impact - General Fund Only:	$ 750,000	*
Estimated Project Duration (months):	60	
Estimated Project Start Date:	7/1/2016	

PROJECT DESCRIPTION (one page only)

*Note - It is assumed that if the money to rehabilitate the reservoirs is not spent now, the costs will be doubled to $1.5 M in later years due to continued deterioration.

Please use this form to provide the following information:

- **Asset Information:** The three reservoirs at Mt Tabor Park (Reservoirs 1, 5 and 6) were constructed in 1894 and 1911 respectively. Until December 2015 they had been operated as water storage facilities. In December 2015 they were disconnected from the drinking water system in order to comply with EPA rules (LT2). The reservoirs and the park surrounding them are listed in the National Register of Historic Places as Historic Districts, with the Reservoirs Historic District contained within the Park Historic District. The Reservoirs Historic District are also contributing resources for the Park Historic District. The reservoirs are iconic features of Mt Tabor Park and are viewed by the publc as part of the park and function as park amenities. Because of their age the reservoirs historic resources are in fair to poor condition, especially the concrete structures.

- **Project Description:** This project will implement a portion of the recommended work in the 2009 Mt Tabor Reservoirs Historic Structures Report. The work elements will be prioritized to meet the budget based on collaboration with the Mt Tabor Neighborhood Association, Parks Bureau, and other stakeholders. The work generally consists of concrete repair and restoration of the reservoir historic sttructures (gatehouses, parapet walls), sidewalk repair and replacement, roof repairs, restoration of existing historic lighting , restoration of historic wrought iron fences and features, window and door rehabilitation and painting, removal of non historic features that are no longer in use, and other work necessary to preserve the historic fabric. The project was approved by City Council in Resolution 37146 in July 2015 and made binding city policy, but funding was not identified at that time.

- **Explain Scores**:
Health and Safety (2), there are tripping hazards associated with concrete sidewalk failures (that are to be addressed by the project). Tripping hazards are assumed to lead to minor injuries.

Service Impacts (5), the issue is whether the reservoir structures and the facility meet the intent as historic features. In the absence of the proposed improvements, it is interpreted that the "level of service" as historic features is compromised. We assume that this impacts visitors to the park and the overall park experience. Mt Tabor receives substantially more than 10,000 visitors a year.

Environmental impacts (2), one aspect of the historic feature is the presence of water in the reservoirs. The existing concrete basins are in poor shape and leak heavily. The environment impact is the impact of leakage, in terms of where the water goes, or the carbon footprint associated with the delivery of extra water to make up for the leakage - including the extra chemicals that are needed. These environmental impacts are considered minor under normal conditions but could be more severe in an emergency.

Legal and Regulatory Compliance (10). The city may be sued if this project is not funded in one or two ways. The City may be sued if the project is not done, since it is part of the negotiated settlement, as well as required by the landmarks commission and the land use review permit. The City may also be sued if Water Bureau ratepayer funds are used. Regarding the ratepayer funds issue, we have been in a multiyear lawsuit regarding the use of ratepayer funds for projects that are perceived as not related to water. The Portland Utility Board does not support using ratepayer funds to pay for historic preservation work at Mt Tabor. A City Council resolution (37146) passed last summer directs the Water Bureau to do the work, and is “binding city policy”. The Bureau is also required to do the work as part of the land use and landmarks commission review in order to be permitted to do the disconnect work at Mt Tabor, which was required by EPA.

Financial Impact (6). The Mt Tabor structures and reservoir basins are deteriorating. As with all deteriorating assets, work that is completed now will avoid future work that is likely to be more expensive. For example, exposed reinforcing bars in the reservoir are corroding. If the work is completed sooner, then the structural integrity of the basin may be preserved. If the project is not completed sooner rather than later, future costs could easily double for major aspects of this project, such as providing the necessary structural support by adding reinforcement (far costlier than the planned work). We have assumed that a doubling of the cost of this $750,000 request would lead to additional costs of an equal amount, $750,000, in the future, if the project is not done. We have used that value in the rating.

- **Benefits:** This project will implement the highest ranked work to preserve and restore the historic reservoirs at Mt Tabor. The City of Portland is a steward of these historic resources and is obligated to maintain them.

Benefits that make the project eligible to receive a bonus include see instructions for more details):
- Expands or increases level of service above baseline (as described above, there is a Council directive to do this work and th e intent of this project is to provide citizens with historically appropriate water features in Mt Tabor)
- Reduce waste production, resource use, or carbon emissions (the concrete basins need to be refilled with water, but are in po or condition and will leak significantly. The water loss has an associated cost to replace, which can be related to higher carbon emissions)
- Reduces operations and maintenance costs (These deteriorating assets can be addressed now at less cost than it would require in the future as the assets deteriorate further. This is particularly important for structural elements that are exposed to the environment and corroding).
- Implements an identified action in an approved City plan. (A council resolution passed last summer directs the work, and is “binding city policy”). It is also required as part of the land use and landmarks commission review in order to be permitted to do the disconnect work at Mt Tabor, which was required by EPA.)

FY 2015-16 Project Score Sheet #1

Bureau:	Water	**Total Project Cost:**	$4,800,000
Project:	Mt Tabor Reservoirs Historic Preservation	**GF Request:**	$750,000
		Total Net Operations and Maintenance Impact:	$750,000

	Failure Mode #1 (Current State)	Failure Mode #2 (Progression/Worst Case)
Failure Mode Description:	Failure to meet land use and historic preservation requirements, as dictated by Council and required by the landmarks commission. This project is a negotiated settlement with the neighborhood association. Reservoir basins are in poor condition. Among the action is addressing cracking and spalling of the concrete.	

LIKELIHOOD *Without this project, the asset is expected to fail in…*		Likelihood of Failure Mode #1	Likelihood of Failure Mode #2
Already Failed	100%	100%	
0 to 2 years	70%		
3- 5 years	50%		
More than 5	10%		
CONSEQUENCES *Project avoids or reduces risk of…*	**Points**	**Risk Score Failure Mode #1**	**Risk Score Failure Mode #2**
Human Health and Safety Impacts (including in the workplace)			
Fatalities	10	*2*	
Serious injuries	5		
Minor injuries	2		
No potential human health or safety impact	0		
Service Impacts			
Disruption of service to > 10,000 customers	10	*10*	
Disruption of service to 1,000-9,999 customers	5		
Disruption of service to < 1,000 customers	3		
Community complaints	1		
No potential service impact	0		
Environmental Impacts			
Long-term or widespread ecological damage	10	*2*	
Major but recoverable	5		
Minor and recoverable	2		
No potential environmental impact	0		
Legal and Regulatory Compliance			
City sued and/or fined	10	*10*	
City formally warned	5		
City warned internally	3		
Project does not address legal/regulatory/compliance obligation	0		
Financial Impact			
Prevents asset loss, revenue loss, and/or R/R/R cost > $2.0 million	10	*6*	
Prevents asset loss, revenue loss, and/or R/R/R cost $500,000 - $1,999,999	6		
Prevents asset loss, revenue loss, and/or R/R/R cost $50,000 - $499,999	4		
Prevents asset loss, revenue loss, and/or R/R/R cost < $49,999	2		
No potential financial impact	0		
Total Consequence Score *(Maximum = 50)*		30	0

Total Risk Score = *Likelihood of failure* X *Total consequence score*		**30.0**	**0.0**
Benefit (increases score by up to 10%):			
Enter **"YES" or "NO"** in cell C46 depending on if your project promotes a positive benefit described in the instructions (to be eligible the benefit(s) must be detailed in the Request Form). The Validation Committee will make the final award decision:		Yes	
Total Score **(the highest score will be used for the ranking, maximum points = 55)**		**30.0**	**0.0**

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FY 2016-17 FIVE-YEAR PRELIMINARY FINANCIAL PLAN

February 2016

PORTLAND WATER BUREAU

FROM FOREST TO FAUCET

City of Portland Water Bureau
Nick Fish, Commissioner
Michael Stuhr, P.E., Administrator

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DOCUMENT FIGURES

EXECUTIVE SUMMARY

Introduction

The Portland Water Bureau (bureau) is the largest domestic water supplier in Oregon. About 960,000 people, almost one-quarter of the state's population, are served from the Bull Run system. On an average basis, the bureau delivers about 100 million gallons a day (MGD). On peak days, the bureau may deliver as much as 160 MGD and has the capacity to deliver over 200 MGD. The bureau delivered about 33 billion gallons of water to its customers in fiscal year (FY) 2014-15.

About 60 percent of water delivered serves retail customers in the city. The remaining 40 percent is provided on a wholesale contract basis to twenty cities, special districts, and private water company customers surrounding Portland.

As part of the bureau's overall mission and values, its financial objective is to "maintain fiscal integrity, undertake sound financing practices and ensure auditable results," which

- provides for sufficient annual funding of operating, maintenance, and capital programs approved by City Council;

- provides for rates and charges to customers that are equitable and based on generally accepted cost-of-service principles unless otherwise directed by City Council;

- strives for a natural optimal balance among financial health, operational effectiveness, infrastructure condition, effective management, rate affordability, and maintaining a skilled and experienced workforce;

- strives to optimize capital financing strategies, today and into the future; and

- ensures the maintenance of appropriate and adequate cash balances (operating fund, construction fund, sinking fund, and rate stabilization account) consistent with City policies, bond covenants, and industry standards.

Key Priorities and Expectations

The bureau's priorities follow Commissioner-in-Charge Nick Fish's focus on four areas: capital project oversight, equity and diversity, communication, and priority initiatives identified by the Commissioner. The key expectations are listed below.

Capital project oversight includes continuing with on-time and on-budget delivery of capital projects that maintain quality drinking water, protect public health, comply with regulations, replace aging infrastructure, and ensure seismic resilience and emergency response capability.

The bureau will work to develop measurements for the bureau's culturally diverse outreach program, broaden outreach strategies for recruitments to ensure diverse pools of candidates and expand potential employee pools to promote fairness in hiring and promotion, and conduct staff development and succession planning and to ensure the bureau's contract continues to meet and exceed City goals for contractors certified through the Oregon State Office of Minority, Women, and Emerging Small Businesses.

The bureau is developing a Strategic Communication Plan and specific outreach plans for major capital projects including the Willamette River Crossing and the Washington Park Reservoir Improvement. Taken together, the plans will improve dialogue between customers and the bureau as well as increase transparency.

Budget Development

The oversight groups for the FY 2016-17 budget development process have changed from prior years with the creation of the Portland Utility Board (PUB). The PUB replaces the Public Utility Review Board and the Budget Advisory Committees for the Portland Water Bureau and Bureau of Environmental Services (BES). The PUB is a 9-member citizen body created to strengthen oversight functions for the City's water, sewer and stormwater services. The Citizens' Utility Board (CUB) will continue to provide outside independent review of the Portland Water Bureau and BES on behalf of residential ratepayers.

The FY 2016-17 budget utilizes the bureau's 27 Key Service Levels across 22 Water Programs as the basis for prioritizing expenditures and funding. As part of asset management, the bureau has established performance measures in each asset program. The asset management process also helps guide budget decisions on an effective mix of maintenance, repair, renewal, and

replacement for water system components. The Water Programs are consistent with the City Council directive to bureaus to establish a list of programs and services.

Budget Guidance

As in prior years, Commissioner Fish provided budget guidance to the Portland Water Bureau and Bureau of Environmental Services to submit a budget with a combined bill increase of no more than 5.0 percent. Mayor Hales' budget guidance for FY 2016-17 was to review the bureau's programs for realignments and efficiencies before asking for fee or rate increases and to seek to keep any fee and rate increases to a minimum.

FY 2016-17 Budget Focus

The FY 2016-17 budget continues to focus on the infrastructure needs of the water system, meet federal and state regulatory requirements, improve on seismic resiliency to withstand earthquakes and other natural hazards, increase community information and outreach, and continue to ensure reliable quality water service.

Retail Water Rates

The FY 2015-16 Adopted Plan estimated an average effective water rate increase of 9.4 percent for FY 2016-17 for funding capital projects related to ongoing maintenance and replacement of the water system, anticipated cost increases related to inflation, and reduction in wholesale revenues due to the termination of the City of Tigard wholesale agreement on June 30, 2016.

The bureau is proposing a lower retail rate increase than was forecast for FY 2016-17. The proposed water retail rate increase for FY 2016-17 is 7.0 percent. The lower retail rate increase for FY 2016-17 was achieved primarily through operating and capital savings in FY 2014-15, additional non-rate revenues, lower planned debt service for the 2016 revenue bonds issue, and lower-than-anticipated inflation.

<u>Proposed FY 2016-17 Water Rates</u>

The proposed average effective retail water rate increase of 7.0 percent would increase the typical monthly residential customer's water bill by $2.22 – from $31.61 to $33.83. A typical residential customer uses about 500 cubic feet (ccf) or 3,740 gallons of water each month.

The retail volume rate will increase from $3.940 per ccf to $4.216. The base charge (the fixed charge on the bill) for the quarterly meter read customers will increase from $11.91 to $12.75 per month. The base charge for the monthly meter read customers will increase from $35.74 to $38.25 per month. Figure 1 shows sample bill increases.

Figure 1 – Monthly Bills Change

	FY 2015-16	FY 2016-17	Change
5 ccf Low Income Residential Monthly Bill (50% discount)	$ 15.81	$16.92	$1.11
5 ccf Typical Residential Monthly Bill[1]	$ 31.61	$33.83	$2.22
100 ccf Medium Commercial Monthly Bill	$429.74	$459.85	$30.11
20,000 ccf Large Commercial Monthly Bill	$78,836	$84,358	$5,522

Basic Utility Services Comparison

Water service provided to Portland residents continues to be one of the lowest essential[2] utility costs in the local area, accounting currently for 10 percent of a typical residential customer's total basic utility-only bills per month as shown in Figure 2.

Figure 2 – Current Average Basic Utility-Only Services

Basic Utility Services	Typical Monthly Charges	Percentage of Total
Electricity (900 kWh)	$111.89	34%
Sewer and Stormwater	$67.60	20%
Natural Gas (55 therms)	$62.68	19%
Water (5 ccf)	**$31.61**	**10%**
Solid Waste and Recycling	$29.35	9%
Telephone	$25.68	8%
Total	$328.81	100%

Water service is also typically far less expensive than the cost of less essential, but commonly incurred services, such as broadcast/satellite cable service, mobile telephone service, or the Internet.

[1] The Typical Single Family Residential Customer water usage per month is 5 ccf.
[2] Does not include other services such as Internet, cellular phone, and broadcast/satellite cable service.

Bill Affordability

The bureau offers one of the most extensive financial assistance programs of all water utilities in the United States. The federal guidance on water bill affordability ranges from 1.0 percent to 3.5 percent of median household income, although 2.0 percent is the most commonly cited affordability measure. The Portland median household income for a two-person family for 2015 was about $4,926 a month. The current typical monthly water bill of $31.61 would then represent only about 0.6 percent of the monthly median household income, and this percentage would be 0.7 percent with the proposed rate increase. Also, the current thresholds to qualify for a low-income discount for two- and four-person families are $2,390 and $3,515 per month, respectively. Under the current program of a 50 percent discount, the typical residential low-income monthly bill of $15.81 represents only 0.7 percent and 0.4 percent of these low-income threshold values, respectively. The FY 2016-17 monthly bill discount to qualified low-income residential customers will increase by $1.11 – from $15.81 currently to $16.92 per month.

In addition to the Low-Income Assistance Program, the Utility Safety Net Program continues to be available to provide assistance to customers experiencing temporary financial hardships due to extraordinary medical expenses, changes in employment status, or change in household status that adversely impacts their ability to pay their utilities. Other affordability benefits include crisis vouchers, interest-free payment plans, in-home fixture repairs, and assistance with using water efficiently.

Bill Comparability

Figure 3 compares residential customer monthly water bills in Portland to other local and national water utilities. Portland customers currently pay $31.61 for 5 ccf and $51.31 for 10 ccf. These amounts are about average for water bills in the Portland area.

Figure 3 – Residential Monthly Water Bills

	For 500 cubic feet
Local Utilities	
Rockwood Water PUD	$18.48
Tualatin, City of	20.34
Milwaukie, City of	23.35
Tualatin Valley Water District	28.48
Beaverton, City of	27.85
PORTLAND, CITY OF (Current)	**31.61**
Gresham, City of	32.00
PORTLAND, CITY OF (Proposed)	**33.83**
West Slope Water District	35.62
Lake Oswego, City of	38.06
Tigard, City of	43.92

In the Local Area[3] and the Nation

	For 1,000 cubic feet
Local Utilities	
Rockwood Water PUD	$29.53
Tualatin, City of	33.34
Milwaukie, City of	39.55
Beaverton, City of	42.70
Gresham, City of	43.30
Tualatin Valley Water District	46.23
PORTLAND, CITY OF (Current)	**51.31**
Lake Oswego, City of	53.46
PORTLAND, CITY OF (Proposed)	**54.91**
West Slope Water District	57.17
Tigard, City of	67.53

National Utilities	
Phoenix, AZ	$19.60
El Paso, TX	23.61
Cincinnati, OH	29.53
Charlotte, NC	30.17
Denver, CO	34.79
Sacramento, CA	45.73
Boston, MA	49.96
PORTLAND, CITY OF (Current)	**51.31**
PORTLAND, CITY OF (Proposed)	**54.91**
Atlanta, GA	54.96
Kansas City, KS	56.42
Seattle, WA	64.75
Austin, TX	66.71
San Diego, CA	67.74
San Francisco, CA	75.53

[3] Calculations are based on rates in effect as of January 2016. Portland Current rates are effective July 1, 2015 through June 30, 2016.

FINANCIAL PLAN

I. ISSUES AND UPDATES

Community Information & Outreach

Under the direction of Commissioner Fish, the bureau is developing a Strategic Communication Plan which will increase community outreach and public involvement. As the City becomes more diverse, the bureau will need to target its communications to minority populations, such as non-native speakers, new arrivals, and low-income households. In addition, the bureau will be working to increase awareness of the low-income discount and monthly billing programs.

Major Capital Projects

The two single largest projects included in this Five-Year Preliminary Financial Plan are the Washington Park Reservoir Improvement and the Willamette River Crossing. The Washington Park Reservoir Improvement project involves building a new below-ground reservoir to replace the existing 120-year-old uncovered reservoirs to comply with the Long-Term Enhanced Surface Water Treatment (LT2) Rule. The new enclosed reservoir will be built to current seismic standards to withstand earthquakes and landslides. The bureau expects to begin construction by fall 2016. The Willamette River Crossing project will construct a seismically hardened transmission main under the Willamette River to provide reliable water supply to wholesale and retail customers on the west side after a significant seismic event. The bureau anticipates construction to begin within the next two years.

Mt. Tabor Preservation

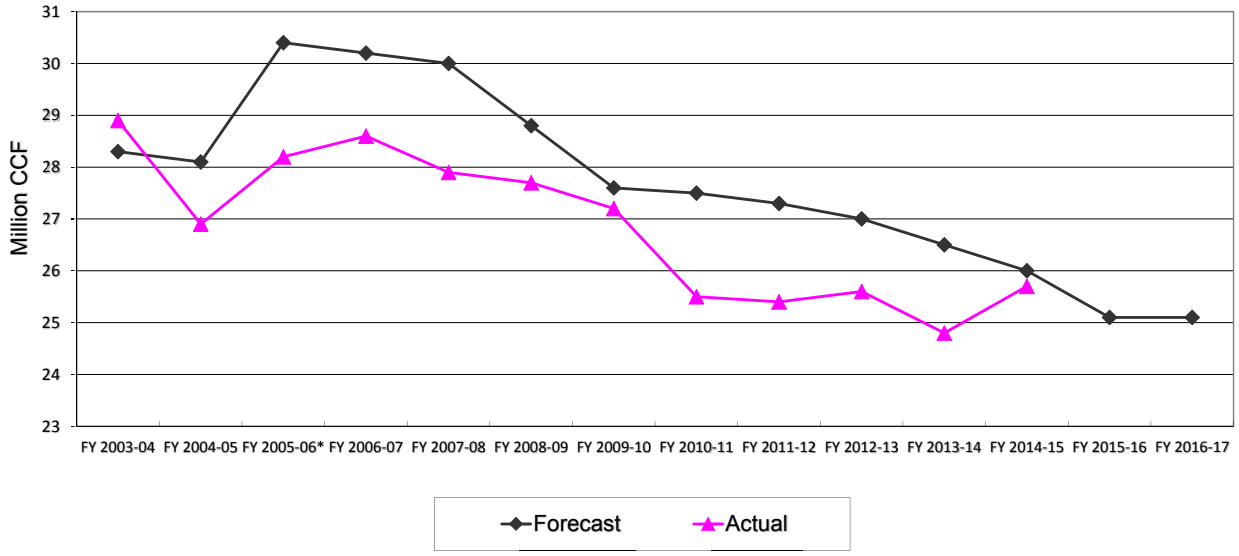
The Mt. Tabor Reservoirs were disconnected from the City's water distribution system in December 2015 to comply with the LT2 Rule. An agreement with Mt. Tabor Neighborhood Association, adopted by City Council, committed the City to keep the reservoirs filled with clean water after the reservoirs were no longer used for water delivery. The City also agreed to allocate at least $4 million over the next four years to maintain the reservoirs' historic appearance and in addition develop an interpretive program that tells the history of the Mt. Tabor reservoirs and the city's water system. This Five-Year Preliminary Financial Plan assumes funding for the maintenance, repair, and preservation of the reservoirs and the interpretive program will be provided by the General Fund.

Forecast Retail Water Demand

Overall water demand has been decreasing since FY 2003-04 with relatively flat demand from FY 2010-11 through FY 2012-13 and a decline again in FY 2013-14. The bureau's water demand for FY 2014-15 was 25.7 million ccf, or 0.3 million ccf below plan. This is an increase compared to FY 2013-14 retail water demand of 24.8 million ccf. Retail water sales for FY 2015-16 are forecast at 25.1 million ccf and are expected to meet or exceed the forecast.

Figure 4 shows the historical actual and forecasted retail water demand for FY 2016-17.

Figure 4 – Retail Water Demand Forecast & Actual



*Powell Valley Road Water Distrct

The retail water demand forecast remains flat at 25.1 million ccf beginning in FY 2016-17. A typical single-family residential customer's current water usage is about 5 ccf per month.

Water demand projections remain a key factor in setting water rates. As customers purchase less water, there is a corresponding loss in revenues that creates a need for either service reductions or rate increases due to proportionally fewer units (in ccf) of water sold to fund the fixed costs of the utility. More than 95 percent of Portland Water Bureau system costs are considered fixed in the short term. This is similar to most water utilities in the United States.

Payment Card Industry (PCI) Standard Compliance

The bureau worked with the City Treasury office and the Information Security section of the Bureau of Technology Services to ensure the bureau is compliant with payment card industry (PCI) standards. Maintaining PCI compliance will have a budget impact as a result of increased processing fees, the potential for increased staff, and a possible decrease in account collectability. As a result, the bureau will be implementing an electronic payment application to ensure that the bureau continues to comply with PCI while restoring the electronic payment options that were available to customers. This Five-Year Preliminary Financial Plan includes funding in FY 2016-17 to implement the electronic payment application.

Portland Building Renovation

The City's Facilities Services within the Office of Management and Finance (OMF) has proposed to City Council to completely renovate the Portland Building. The renovation project is estimated at $195 million. The bureau owns the 6th floor of the Portland Building and leases additional floors in the building. The bureau is considering whether to own or lease all of the spaces it currently occupies in the Portland Building or continue with the current mix of owning and leasing of the spaces. The costs of the options range from $3.1 million to $4.2 million annually for the ongoing share of the debt service payments and O&M expenses. The options assume the City will be implementing a blended rate methodology among all City-owned facilities in the downtown area beginning in FY 2019-20. For financial planning purposes, this Five-Year Financial Plan assumes the bureau will own all of the spaces it currently occupies.

In addition, OMF will be requesting City Council approval for funding to permanently relocate the data center out of the Portland Building. The data center is the City's primary data center housing servers for nearly all City applications, including SAP, Cayenta Utility Billing, and PortlandOregon.gov, as well as file and printer servers for bureaus. The proposed project funding is expected to be about $10 million. The bureau's allocation share of this has not been included in this Five-Year Preliminary Financial Plan pending City Council approval for the project and funding mechanism.

Pending Lawsuit Update

The lawsuit filed by Citizens for Water Accountability on December 6, 2011 against the City alleging that the City spent utility ratepayer monies on projects that were unrelated to the utilities' core functions continues. The lawsuit requested an order that would require the City to reimburse the Water Fund and Sewage Disposal Fund for those expenditures. The City estimates that if all expenditures in question were determined to be inappropriate, the reimbursement could exceed $50 million. The City is vigorously defending the lawsuit and believes that it is unlikely that the plaintiffs will prevail on the majority of the claims alleged. This Five-Year Preliminary Financial Plan assumes no reimbursements from the City to the Water Fund.

II. FIVE-YEAR RATES

The five-year retail rates forecast includes funding a revised Five-Year Capital Improvement Plan, rate increases associated with new positions request, and inflation. Figure 5 shows the projected retail rates for the five-year planning period. The bureau utilizes a Rate Stabilization Account (RSA) to smooth retail rate increases over the planning period to minimize rate spikes.

Figure 5 – Five-Year Rates Forecast

	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Retail Rates Increase	7.0%	8.4%	8.3%	10.7%	8.1%

The current wholesale water sales agreement with the City of Tigard will terminate on June 30, 2016. The forecasted retail rate for FY 2016-17 includes a reduction in wholesale revenues due to this termination. The forecasted retail rate increases include funding the 5-Year Capital Improvement Program and anticipated inflationary cost increases. The forecasted retail rate increase for FY 2019-20 also includes the anticipated facilities costs increase related to the Portland Building Renovation Project.

III. CONTINGENCIES/RESERVES

The bureau's Operating Fund Contingency Account, on a modified accrual basis, includes the minimum cash fund balance, the Rate Stabilization Account, and non-cash accounts. The bureau uses the cash basis of accounting in its financial planning and rate forecasts.

Cash Reserve

The bureau plans for a minimum fiscal year-end operating cash reserve of $15.0 million in the Operating Fund. This represents about 45 to 60 days of operating costs. This standard conforms to the generally accepted industry standard for such reserves, and has been approved by the Office of Management & Finance as a reasonable amount for this reserve. Cash flow can fluctuate widely throughout the year and the Operating Fund cash balances are lowest after transfers are made for debt service payments in the fall and spring.

Rate Stabilization Account

The bureau established a Rate Stabilization Account (RSA) within the Water Operating Fund to smooth rate increases over the financial planning period and beyond. The bureau began funding the RSA in FY 2006-07, and plans to maintain a minimum balance of $2.0 million as defined in the Master Second Lien Water System Revenue Bond Declaration. This smoothing is one of the bureau's key financial planning objectives and is aimed at maintaining financial stability and predictability. Figure 6 shows projected transfers from the RSA.

Figure 6 – Transfers from the Rate Stabilization Account

	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Transfers from the RSA	$5.2 M	$0.9 M	$5.7 M	$9.7 M	$7.9 M

The RSA also serves as an available useable reserve for unforeseen requirements and helps ensure that debt service coverage meets planning standards. The transfers from and to the RSA could change with each update of forecasted operating expenses and revenues, the planned amount of bonds to be sold, and the balance of the RSA.

Non-Cash Accounts

The bureau uses the accrual basis of accounting for its financial statements. This means that revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. This results in accounts receivable for revenues earned until the cash is received and accounts payable for expenses incurred until the payments are made. These non-cash account balances fluctuate throughout the year and the year-end balances can range from $10 million to $15 million. Although accounts receivable are technically funding sources to the bureau, the funds are not available for use until the cash has been received. Therefore, the bureau uses the cash basis of accounting for financial planning and rate setting.

IV. PERFORMANCE MANAGEMENT

In FY 2015-16, the City was transitioning from measurement and reporting to management and improvement. For FY 2016-17, the City is advancing its Performance Management initiatives to correlate directly to the specific goals found within Portland's 2035 Comprehensive Plan. The Portland Comprehensive Plan sets clear standards for maintaining and developing water system resources to ensure reliability, adequacy of supply, and water quality. The Plan also includes six integrated goals that support prosperity, human health and safety, environmental health, equity, and resilience. These goals will be used in setting long-term strategic targets. The Performance Management System will be used to inform budget decisions that directly support those targets and ultimately influence the progress of the mission and goals of the City of Portland. Moreover, the City set a goal last year of integrating web-based dashboards that illustrate the performance measures of each bureau and bureau progress within the measures. The dashboard is now live and viewable on the City Budget Office web page and serves as a way to better communicate the quality and breadth of services of each bureau to the community.

The bureau continues to measure its progress in the following core Key Performance Measures, developed as part of the FY 2015-16 budget. Results are reported in the annual budget under each program and in the Performance Measures section.

Core Service: Provide high-quality water
Measure: Number of violations of state and federal drinking water quality regulations
Target: 100 percent compliance with state and federal drinking water quality regulations

Core Service: Provide excellent customer service
Measure: Average time that customers are on hold before speaking to a customer service representative
Target: Less than 2 minutes

Core Service: **Maintain water system infrastructure**
Measure: Number of high risk assets identified and percent addressed
Target: 80% of the identified high risk assets are addressed

Core Service: **Maintain water service**
Measure: Percentage of customers per year that are without water for more than 8 hours
Target: Less than 1 percent of customers are out of water for more than 8 hours in a year

Core Service: **Efficient use of public resources**
Measure: Maintain Water Revenue bond credit rating
Target: Aaa bond rating

Core Service: **Provide responsible environmental stewardship**
Measure: Number of violations of state and federal environmental regulations
Target: 100 percent compliance with state and federal environmental regulations

V. BUDGET PROGRAMS

The bureau has Seven Budget Programs - **Supply, Transmission and Terminal Storage, Treatment, Distribution, Regulatory Compliance, Customer Service and Administration & Support.** Within these Budget Programs are 22 Water Programs. The 22 Water Programs are organized so that bureau staff and the public can more easily understand the work that the bureau performs. Each Water Program section includes its purpose(s); the program inventory, consisting of the assets, work products, or components of the program; the desired outcome or effectiveness measures; and a brief description of the tasks and activities associated with the program. The Budget Program framework provides an integrated approach that facilitates continuity between the bureau's planning (i.e. what is budgeted) and accomplishments (i.e. the work that is done.)

The FY 2016-17 preliminary budget request for the 22 Water Programs that are funded by the proposed 7.0 percent rate increase are presented in Figure 7. The list of full-time equivalencies (FTE) in this figure refers to the anticipated hours spent by all staff on the respective program activities. The FTEs listed do not reflect the staff organizationally assigned to each program. For example, a staff person assigned to Customer Service might charge time to Employee Investment (training), and those hours are shown in Administration & Support, not Customer Service.

Figure 7 – FY 2016-17 Preliminary Budget Request by 22 Water Programs

(Amounts in thousands)

	FY 2016-17 Budget Request by 22 Water Programs			
Water Programs	**Base**	**CIP**	**Total**	**FTE**
Supply				
Bull Run Watershed	$3,060	$3,729	$6,789	22.0
Groundwater	$1,678	$1,040	$2,718	7.2
	$4,739	$4,769	$9,508	29.2
Transmission & Terminal Storage				
Conduits/Transmission Mains	$1,233	$1,359	$2,592	6.7
Terminal Reservoirs	$700	$33,910	$34,610	25.1
	$1,933	$35,269	$37,202	31.8
Treatment				
Treatment	$2,522	$440	$2,962	10.9
Distribution				
Distribution Mains	$4,257	$20,400	$24,657	78.8
Field Support	$4,082	$4,255	$8,337	36.3
Fountains	$106	$0	$106	0.9
Hydrants	$1,007	$1,369	$2,376	13.9
Meters	$1,630	$1,139	$2,769	17.7
Pump Stations/Tanks	$6,719	$5,996	$12,715	37.3
Services	$1,977	$4,545	$6,522	38.2
Valves/Gates/Regulators	$1,374	$0	$1,374	7.1
	$21,152	$37,704	$58,856	230.1
Regulatory Compliance				
Water Quality & Regulatory Compliance	$7,186	$2,364	$9,550	43.1
Customer Service				
Conservation/Sustainability	$849	$0	$849	3.9
Customer Service	$17,146	$0	$17,146	94.2
Grounds/Parks	$716	$0	$716	2.5
Security/Emergency Mgmt	$2,134	$66	$2,200	13.8
	$20,845	$66	$20,911	114.4
Administration & Support				
Bureau Support (1)	$22,223	$0	$22,223	52.8
Data Management	$3,373	$0	$3,373	20.4
Employment Investment	$2,254	$0	$2,254	15.9
Planning	$3,422	$2,278	$5,700	27.7
	$31,273	$2,278	$33,551	116.8
Total	$89,650	$82,890	$172,540	576.3

(1) Bureau Support includes Utility License Fee of $6.8 million.

Total may not add due to rounding

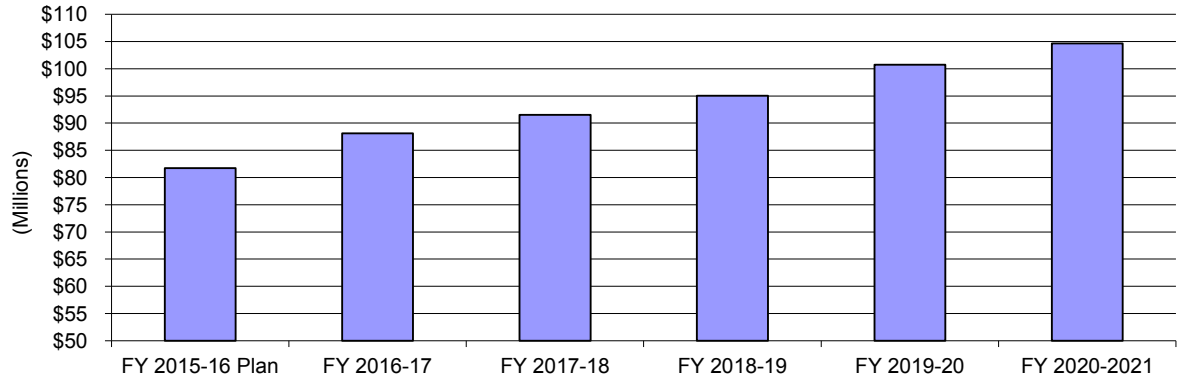
VI. OPERATION & MAINTENANCE (O&M) PLAN

The Water Bureau's O&M plan includes all non-capital expenditures required to maintain, operate, support, and manage the water system. This includes the bureau's ongoing O&M costs within the base and CIP budgets (including Utility License Fees), General Fund Overhead, Pension Obligation Bonds (POBS), and offset with capitalized overhead.

FY 2016-17 O&M is forecast at $88.1 million, a $6.4 million or 7.9 percent increase compared to the FY 2015-16 Adopted O&M Plan. A $3.6 million increase in the O&M budget is primarily due to inflationary increases in the O&M budget that includes cost-of-living adjustment, salary step increases, and employee pension and health costs as well as increases for bank fees associated with electronic bill payments. The O&M budget also increased $2.0 million for new requests. In addition, an increase in the O&M budget of $1.3 million is due to the increases in the Utility License Fee (ULF), General Fund Overhead, and POBS, offset with a $0.5 million increase in capitalized overhead. An increase in capitalized overhead means more operating expenses would be capitalized, resulting in lower operating costs.

Figure 8 shows the FY 2015-16 O&M plan and the forecast of O&M costs over the five-year planning period beginning in FY 2016-17. The O&M forecast is projected to rise to $104.6 million by FY 2020-21, growing at an annual average rate of 4.3 percent over the five-year planning period. The forecast includes assumptions from the City Economist regarding expected increases in Public Employees Retirement System (PERS) contribution rates in, FY 2017-18 and again in FY 2019-20.

Figure 8 – Operation & Maintenance Plan Forecast



VII. CAPITAL IMPROVEMENT PLAN (CIP)

The bureau has developed a proposed FY 2016-17 Five-Year CIP as part of the comprehensive budget process that responds to the priorities identified through bureau planning processes and the City Council. New capital projects may be proposed through several processes: bureau master plans and studies; asset management plan recommendations; and requests by internal bureau staff, other agencies or bureaus, City Council, developers, and citizens. Significant projects go through a multiple-layered approval process. Projects are typically initiated with a planning-level report developed by engineering and reviewed by senior management. Upon approval, a more advanced Project Validation Report (PVR) is developed. The PVR uses industry best practices of benefit-cost analysis and risk management to identify and weigh alternative solutions compared to PWB's service standards. In addition to this quantitative analysis, the bureau also considers rate increase impacts, shared costs with other agencies, outside revenue opportunities, and regulatory requirements when evaluating a project for inclusion in the budget. Public input for projects is received through PUB, CUB, and City Council, during the public budgeting process and during any city, state, and federal permit review periods.

The CIP includes projects with a proposed budget totaling $82.9 million for FY 2016-17 and $473.7 million (in FY 2016-17 dollars) over the five-year period. The bureau has developed a Five-Year CIP that is achievable and continues to address the infrastructure needs of the water system. This plan is also consistent with one of City Council's focus areas of rebuilding the City's critical infrastructure, and repairing, renewing, and replacing water-system assets. The proposed FY 2016-17 Five-Year CIP continues to address the more immediate and short-term water system infrastructure needs.

A summary of the proposed Five-Year CIP is shown in Figure 9.

Figure 9 – Five-Year Capital Improvement Plan

(Amounts in thousands)

Water Program	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	Total
SUPPLY						
Bull Run Watershed	$3,729	$6,320	$3,838	$3,417	$3,500	$20,804
Groundwater	$1,040	$570	$570	$570	$1,000	$3,750
Total	$4,769	$6,890	$4,408	$3,987	$4,500	$24,554
TRANSMISSION & TERMINAL STORAGE						
Conduits/Transmission	$1,359	$3,503	$5,914	$15,645	$15,645	$42,066
Terminal Reservoirs	$33,910	$50,269	$31,110	$19,110	$4,610	$139,009
Total	$35,269	$53,772	$37,024	$34,755	$20,255	$181,075
TREATMENT						
Treatment	$440	$1,345	$693	$10,952	$10,952	$24,382
DISTRIBUTION						
Pumps Station/Tanks	$5,996	$2,330	$2,450	$3,351	$3,286	$17,413
Distribution Mains	$20,400	$30,376	$55,790	$18,505	$20,280	$145,351
Services	$4,545	$4,545	$4,545	$4,545	$4,545	$22,725
Meters	$1,139	$1,139	$1,139	$1,139	$1,139	$5,695
Hydrants	$1,369	$1,369	$1,369	$1,369	$1,369	$6,845
Field Support	$4,255	$3,932	$3,932	$3,976	$3,976	$20,071
Total	$37,704	$43,691	$69,225	$32,885	$34,595	$218,100
REGULATORY COMPLIANCE						
Water Quality/Regulatory Compliance	$2,364	$2,378	$2,278	$2,278	$2,278	$11,576
CUSTOMER SERVICE						
Security/Emergency Management	$66	$66	$66	$66	$66	$330
ADMINISTRATION & SUPPORT						
Planning	$2,278	$2,848	$2,848	$2,848	$2,848	$13,670
TOTAL	**$82,890**	**$110,990**	**$116,542**	**$87,771**	**$75,494**	**$473,687**

Totals may not add due to rounding.

Capital Plan

The bureau's Capital Plan includes routine and ongoing capital repair and replacements to the water system as well as enhancements and additions that tend to be large and nonrecurring. The Capital Plan is composed of the capital portion of the CIP, bond sale costs, and indirect capitalized costs (overhead and interest).

The capital plan summary for the five-year planning period is presented in Figure 10.

Figure 10 – Five-Year Capital Plan Summary

(Amounts in thousands)

	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	Total
Capital Improvement Plan						
Total Studies in CIP	$2,278	$2,848	$2,848	$2,848	$2,848	$13,670
Total O&M Labor in CIP	$1,650	$1,650	$1,650	$1,650	$1,650	$8,250
Total Direct Capital	$78,962	$106,492	$112,044	$83,273	$70,996	$451,767
CIP Total (Current Dollars)	**$82,890**	**$110,990**	**$116,542**	**$87,771**	**$75,494**	**$473,687**
Forecast Inflation	1.00	1.05	1.08	1.13	1.17	N/A
Total CIP (Inflated Dollars)	$82,890	$116,096	$125,804	$99,578	$88,476	$512,844
Total Studies in CIP	$2,278	$2,979	$3,074	$3,231	$3,338	$14,900
Total O&M Labor in CIP	$1,650	$1,726	$1,781	$1,872	$1,934	$8,963
Total Direct Capital	$78,962	$111,391	$120,948	$94,475	$83,205	$488,981
Forecast Capital Expenditure Rate[4]	100%	100%	100%	100%	100%	100%
Total Forecast Direct Capital	**$78,962**	**$111,391**	**$120,948**	**$94,475**	**$83,205**	**$488,981**
Indirect/Other Costs						
Bond Sale Costs	$601	$711	$591	$547	$0	$2,450
Capitalized Interest	$914	$956	$987	$1,037	$1,072	$4,967
Capitalized Overhead	$15,774	$16,500	$17,028	$17,896	$18,487	$85,685
Total Indirect/Other Costs	$17,290	$18,168	$18,605	$19,481	$19,559	$93,102
Total Forecast Capital	**$96,252**	**$129,558**	**$139,554**	**$113,956**	**$102,763**	**$582,083**
Capital Financing ($)						
Capital Revenues	$10,609	$10,665	$10,943	$11,360	$11,664	$55,240
Debt	$65,060	$92,375	$96,517	$64,243	$48,867	$367,062

[4] The Water Bureau assumes direct capital over the 5-year forecast period will be spent at the full budgeted amounts. Indirect capital is assumed to be spent at the full budgeted amount.

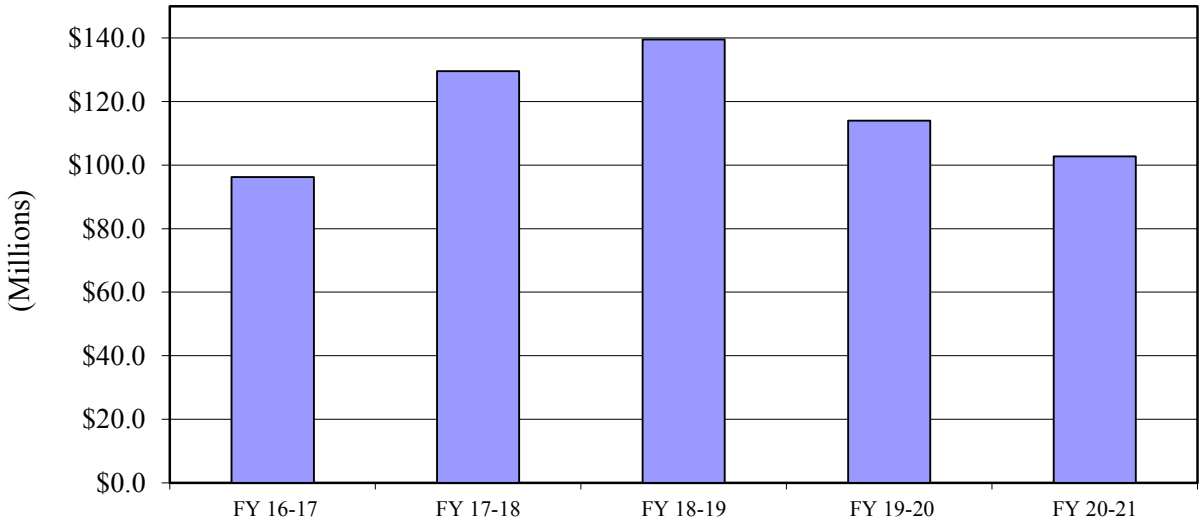
Cash	$20,035	$25,965	$31,615	$37,914	$41,781	$157,310
Interest on Investments	$547	$553	$480	$439	$452	$2,471
Capital Financing (%)						
Capital Revenues	11%	8%	8%	10%	11%	9%
Debt	68%	71%	69%	56%	48%	63%
Cash	21%	20%	23%	33%	41%	27%
Interest on Investments	1%	0%	0%	0%	0%	0%

Totals may not add due to rounding.

Figure 11 displays the capital plan forecast over the five-year period.

Figure 11 – Capital Plan Forecast

This five-year capital plan reflects the CIP as updated through January 2016:



- The Capital Financing Plan provides funding for capital expenditures of $582.1 million across the five-year forecast period. Capital expenditures include direct project costs and indirect costs (capitalized overhead, capitalized interest, and bond issuance costs).

- A bond sale of about $91.8 million is planned for the fall of 2016. In total, bond sales of $374.9 million are planned over the five-year planning period. Bonds will be sold every twelve to eighteen months through FY 2020-21. Starting in FY 2021-22, bond sales will be sold mainly on a biennial basis. Bond proceeds totaling $346.2 million are to be used to fund capital costs in the five-year period. About $28.7 million of the bond proceeds will be used to fund debt service reserves funds. The current and projected debt service

payments are forecast to total $332.1 million for the five-year forecast period. This amount includes $329.8 million from the Water Operating Fund and $2.3 million of interest earned on bond reserves.

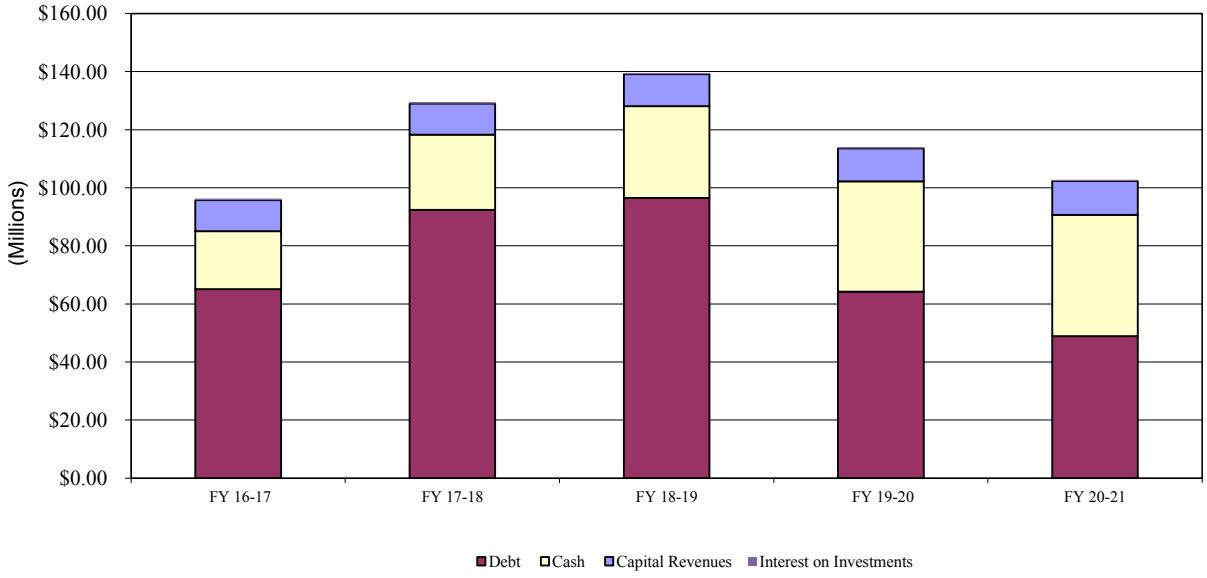
- Capital revenues provide approximately $55.2 million across the five years. Capital revenues include system development charges, new services/mains, City interagency revenues, and sales of assets.

- Cash-financed capital funding from rate revenues provide approximately $157.3 million across the five years.

- The bureau includes a set-aside of $2.5 million for bureau-funded utility relocation investments.

Figure 12 displays the mix of capital financing over the five-year forecast period.

Figure 12 – Capital Financing Plan



Studies and O&M Embedded in the CIP

The bureau's CIP includes project expenditures that cannot be capitalized or debt financed. These expenditures generally fall into the grouping of capital studies, preliminary engineering, and

O&M investments.[5] The bureau has included $21.9 million (FY 2016-17 dollars) for capital studies, preliminary engineering, and O&M costs in the CIP over the five-year forecast period.

[5] O&M costs within the CIP projects that are not deemed capital include the portion of a CIP project that does not clearly meet the capital criteria of a betterment, improvement, or addition as prescribed by the City and industry standard, and are considered an ordinary periodic expense. These are project costs, which are embedded in capital projects, but by their nature do not meet the capitalization test (e.g., preliminary engineering costs or capital maintenance).

APPENDIX

The figures listed below are included in this appendix. Forecast figures were prepared based on the bureau's recommended forecast.

Figures A1 – Historical Water Rates
This figure displays the bureau's water rate schedules for the period FY 2011-12 through FY 2015-16.

Figure A2 – Forecast Assumptions
This figure provides a comparison of economic and budgetary assumptions underlying the current year (FY 2015-16) and the five-year forecast period.

Figure A3 – Operating Budget
This figure displays the bureau's annual system operating costs and their funding for FY 2015-16 and the five-year forecast period.

Figure A4 – Revenue Requirements from Rates Summary
This figure displays annual revenue requirements from rates for FY 2015-16 and the five-year forecast period. Revenue required from rates (net revenue requirements) is computed by subtracting other current system revenues from current system costs.

Figure A5 – Water Sales Summary
This figure provides a synopsis of projected changes in total system revenue requirements, the costs financed by water sales, and projected changes in water sales and water rates for the combined wholesale and retail customer classes for FY 2015-16 and the five-year forecast period.

Figure A6 – Outstanding Debt and Annual Debt Service
This figure provides a summary of the bureau's projected outstanding debt and annual debt service requirements (principal and interest) for FY 2015-16 and the five-year forecast period.

Figure A7 – Projected Debt Service Coverage
This figure provides projected revenue debt service coverage for the first lien revenue bonds only and first and second lien revenue bonds stabilized for FY 2015-16 and the five-year forecast period. This figure also displays the projected gross revenues (operating revenues plus non-operating revenues) and operating expenses that are included to calculate debt service coverage.

Figure A8 – Statement of Sources and Uses of Funds
This figure summarizes the combined Operating, Construction, and Sinking Funds projected sources and uses of funds on a cash basis for FY 2015-16 and the five-year forecast period.

Figure A9 – Water Operating Fund
This figure displays the Operating Fund's projected sources and uses of funds on a cash basis for FY 2015-16 and the five-year forecast period.

Figure A10 – Construction Fund
This figure displays the Construction Fund's projected sources and uses of funds on a cash basis for FY 2015-16 and the five-year forecast period.

Figure A11 – Sinking Fund
This figure displays the bureau's sinking fund's projected sources and uses of funds including the bond reserve account on a cash basis for FY 2015-16 and the five-year forecast period.

Figure A12 – Rate Stabilization Account (RSA)
This figure displays the bureau's Rate Stabilization Account's projected sources and uses of funds on a cash basis for FY 2015-16 and the five-year forecast period.

CITY OF PORTLAND
PORTLAND WATER BUREAU

Figure A1

HISTORICAL WATER RATES

Effective July 1 - June 30	2011-12	2012-13	2013-14	2014-15	2015-16
Inside City:					
Volume Rate (per ccf)	$3.086	$3.321	$3.441	$3.682	$3.940
Outside City - Wholesale Customer:					
Burlington Water District	0.999	1.147	0.998	1.061	1.386
GNR Corporation	0.537	0.606	0.543	0.574	0.653
Green Valley Water Co.	0.537	0.606	0.543	0.574	0.653
Gresham, City of	0.545	0.612	0.554	0.578	0.656
Hideaway Hills Water Co.	0.537	0.606	0.543	0.574	0.653
Lake Grove Water District	1.162	1.281	1.075	1.278	1.377
Lorna Portland Water, LLC	0.537	0.606	0.543	0.574	0.653
Lusted Water District	0.923	0.979	0.912	0.940	1.003
Palatine Hill Water District	1.642	1.812	1.543	1.586	1.690
Pleasant Home Water District	0.823	0.864	0.806	0.841	0.952
Raleigh Water District	0.762	0.772	0.698	0.734	0.832
Rockwood Water PUD	0.524	0.598	0.532	0.564	0.647
Skyview Acres Water Co.	0.537	0.606	0.543	0.574	0.653
Tigard, City of	1.402	1.557	1.389	1.482	1.660
Tualatin Valley Water District	0.922	0.951	0.852	0.884	1.033
Tualatin, City of	0.818	0.859	0.782	0.792	0.927
Two Rivers Water Association	0.537	0.606	0.543	0.574	0.653
Valley View Water District	1.676	1.895	1.652	1.720	1.827
West Slope Water District	1.290	1.459	1.190	1.263	1.301
BASE CHARGE (Monthly Rate)					
Quarterly Billed Customer	$9.33	$10.04	$10.40	$11.13	$11.91
Monthly Billed Customer	$27.99	$30.12	$31.21	$33.40	$35.74
Monthly Bill for 5 ccf	$24.76	$26.65	$27.61	$29.54	$31.61
Monthly Low-Income Water Discount (1)	$12.38	$13.33	$13.80	$14.77	$15.80
Retail average overall change	12.9%	7.6%	3.6%	7.0%	7.0%
Wholesale average overall change	8.1%	8.0%	-11.4%	4.9%	14.4%
Portland CPIU (2)	2.5%	2.2%	2.6%	1.3%	4.1%

(1) The low income discount program began January 1, 1995.

(2) The Consumer Price Index for All Urban Consumers (CPIU). FY 2015-16 is the melded inflation estimate used in the adopted plan.

Figure A2

CITY OF PORTLAND
PORTLAND WATER BUREAU

BUREAU FINANCIAL FORECAST ASSUMPTIONS

	Revised Plan 2016	2017	2018	2019	2020	2021
Economic Assumptions						
Melded Inflation Rate	4.10%	2.70%	4.60%	3.20%	5.10%	3.30%
Interest Earnings Rate *	0.67%	0.70%	1.00%	1.00%	1.00%	1.00%
Bond Discount	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
First Lien Bond Interest	6.00%	5.00%	6.00%	6.00%	6.00%	6.00%
Second Lien Bond Interest	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Wholesale Users' Rate of Return - greater of:	**4.58%**	**4.05%**	**4.86%**	**4.86%**	**4.86%**	**4.86%**
Bond Buyer's Index	4.58%	4.05%	4.86%	4.86%	4.86%	4.86%
Average Cost of Debt	3.43%	3.39%	3.39%	3.39%	3.39%	3.39%
Bond Term	25 Years	25 Years	25 Years	25 Years	25 Years	25 Years
Debt Structure	level	level	level	level	level	level
Minimum Target Coverage Ratios - 1st Lien	1.90	1.90	1.90	1.90	1.90	1.90
Minimum Target Coverage Ratios - Combined 1st and 2nd lien bonds Stabilized tes	1.75	1.75	1.75	1.75	1.75	1.75
Budgetary Assumptions						
Fund Balance	Cash	Cash	Cash	Cash	Cash	Cash
City Franchise Fee	$ 6,332,000	$ 6,774,000	$ 7,336,000	$ 7,950,000	$ 8,787,000	$ 9,526,000
City Franchise Fee - imputed rate	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Direct CIP Capital Expenditure Rate	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Amount does not include Treasury management fee that reduces rate by approximately .07%.

CITY OF PORTLAND
PORTLAND WATER BUREAU
(Amounts in 000's)

Figure A3

OPERATING BUDGET

	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
Forecasted Operating Budget:							
O&M * (includes inflation)	$63,146	$68,180	$69,496	$71,839	$75,921	$78,549	$363,985
O&M Labor in Capital (includes inflation)	1,650	1,650	1,726	1,781	1,872	1,934	8,963
Studies in Capital (includes inflation)	2,184	2,278	2,979	3,074	3,231	3,338	14,900
General Fund Overhead (includes inflation)	4,763	5,372	5,638	5,819	6,116	6,317	29,262
Pension Obligation Bond Debt	3,636	3,893	4,334	4,569	4,786	4,977	22,559
Utility License Fee	6,332	6,774	7,336	7,950	8,787	9,526	40,373
Total Forecasted Operating Budget	$81,712	$88,147	$91,510	$95,033	$100,712	$104,641	$480,042
Funding							
Funded thru Rates	$71,058	$84,282	$88,195	$87,033	$89,242	$94,741	$443,493
Other Resources	10,654	3,865	3,314	8,000	11,470	9,900	$36,549
Funding - % of Total							
Funded thru Rates	86.96%	95.61%	96.38%	91.58%	88.61%	90.54%	92.39%
Other Resources	13.04%	4.39%	3.62%	8.42%	11.39%	9.46%	7.61%
* O&M excludes all capitalized overhead	$15,300	$15,774	$16,500	$17,028	$17,896	$18,487	$85,685

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Figure A4

REVENUE REQUIREMENTS FROM RATES SUMMARY

	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
Operation and Maintenance * (O&M + O&M Labor + Studies)	$66,980	$72,108	$74,201	$76,695	$81,024	$83,821	$387,848
General Fund Overhead	$4,763	$5,372	$5,638	$5,819	$6,116	$6,317	$29,262
Utility License Fee	$6,332	$6,774	$7,336	$7,950	$8,787	$9,526	$40,373
Pension Obligation Bond Debt	$3,636	$3,893	$4,334	$4,569	$4,786	$4,977	$22,559
Debt Service **	$49,967	$54,057	$56,713	$65,308	$75,190	$81,633	$332,900
Cash Financed Capital Improvements	$29,955	$20,035	$25,965	$31,615	$37,914	$41,781	$157,310
Annual System Costs	$161,634	$162,239	$174,187	$191,956	$213,816	$228,055	$970,253
Less: Other System Resources							
Interagency Receipts	$1,465	$2,322	$1,636	$1,688	$1,774	$1,833	$9,253
Interest Earnings	$347	$517	$837	$851	$848	$824	$3,877
Other Water Sales Adjustments***	($1,937)	($2,238)	($2,664)	($2,931)	($3,675)	($3,579)	($15,087)
Other Miscellaneous Receipts	$2,418	$2,520	$2,606	$2,689	$2,826	$2,919	$13,560
Transfer from (to) Rate Stabilization Account	$2,300	$5,200	$900	$5,700	$9,700	$7,900	$29,400
Change in Beginning and Ending Balance	$6,132	($4,456)	($0)	$3	($4)	$3	($4,454)
Total Other Resources	$10,725	$3,865	$3,314	$8,000	$11,470	$9,900	$36,549
Required Revenues from Rates	$150,910	$158,373	$170,873	$183,956	$202,346	$218,156	$933,703
* O&M excludes capitalized overhead	$15,300	$15,774	$16,500	$17,028	$17,896	$18,487	$85,685
** Debt Service Excludes capitalized interest	$887	$914	$956	$987	$1,037	$1,072	$4,967

*** Other Water Sales Adjustments include delinquent charge revenue, and other offsets to water sales including: low-income discount on base and volume charge, safety net, voucher program, bad debt expense, and cash collected on prior year volume rate.

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Figure A5

WATER SALES SUMMARY

	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
Water Retail In-City Volume Revenue	$97,525	$103,599	$112,301	$121,622	$134,633	$145,540	$617,695
Base Charge Revenue	$30,060	$32,699	$35,445	$38,387	$42,498	$45,938	$194,966
Fireline Charge Revenue	$3,668	$4,102	$4,447	$4,816	$5,331	$5,762	$24,457
Total Retail Revenue In-City	$131,253	$140,399	$152,193	$164,825	$182,461	$197,240	$837,118
Average Effective Retail Rate Increase	7.0%	7.0%	8.4%	8.3%	10.7%	8.1%	
Groundwater Revenue	$54	$56	$58	$60	$63	$66	$304
Outside-City Revenue	$572	$618	$701	$718	$745	$816	$3,598
Total Retail Revenues	$131,880	$141,073	$152,952	$165,603	$183,270	$198,122	$841,020
Wholesale Revenue Requirements	$19,030	$17,301	$17,921	$18,352	$19,076	$20,034	$92,684
Wholesale Revenue % change	14.4%	-9.1%	3.6%	2.4%	3.9%	5.0%	
Revenue Requirements Water Sales	$150,910	$158,373	$170,873	$183,956	$202,346	$218,156	$933,703
Water Sales Financing:							
Operation and Maintenance (net of capitalized overhead)	$70,987	$84,282	$88,195	$87,033	$89,242	$94,741	$443,493
Capital Repair and Replacement	$29,955	$20,035	$25,965	$31,615	$37,914	$41,781	$157,310
Debt Service (net of capitalized interest)	$49,967	$54,057	$56,713	$65,308	$75,190	$81,633	$332,900
Fund Balance/Reserve	$0	$0	$0	$0	$0	$0	$0
Water Sales Financing - % of Annual Total:							
Operation and Maintenance	47.0%	53.2%	51.6%	47.3%	44.1%	43.4%	47.5%
Capital Repair and Replacement	19.8%	12.7%	15.2%	17.2%	18.7%	19.2%	16.8%
Debt Service	33.1%	34.1%	33.2%	35.5%	37.2%	37.4%	35.7%
Fund Balance/Reserve	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

CITY OF PORTLAND
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Figure A6

OUTSTANDING DEBT SCHEDULE

	Revised Plan 2016	2017	2018	2019	2020	2021
Revenue Debt:						
Current:						
Total First Lien	$381,645	$365,105	$347,725	$328,375	$308,135	$286,980
Total Second Lien	$220,670	$211,405	$201,690	$192,690	$183,280	$173,440
Total Current Debt	$602,315	$576,510	$549,415	$521,065	$491,415	$460,420
Future:						
Proposed First Lien	$0	$91,840	$200,141	$286,196	$363,098	$355,364
Total Debt Outstanding (year end)	$602,315	$668,350	$749,556	$807,261	$854,513	$815,784

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ANNUAL DEBT SERVICE

	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
Interest:							
Current Debt Schedule	$26,544	$25,340	$24,058	$22,806	$21,504	$20,160	$113,867
Principal:							
Current Debt Schedule	$24,310	$25,805	$27,095	$28,350	$29,650	$30,995	$141,895
Total Current Debt Service	$50,854	$51,145	$51,153	$51,156	$51,154	$51,155	$255,762
Total Future Debt Service*	$0	$3,827	$6,516	$15,139	$25,073	$31,550	$82,105
Total Debt Service	$50,854	$54,971	$57,669	$66,295	$76,227	$82,705	$337,867

* $2.9 million is included annually beginning in FY 2019-20 for the Portland Building renovation

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Figure A7

Projected Debt Service Coverage

	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
Operating Revenues							
Water Sales (retail & wholesale)	$150,910	$158,373	$170,873	$183,956	$202,346	$218,156	$933,703
Other Water Sales Adjustments*	(1,937)	(2,238)	(2,664)	(2,931)	(3,675)	(3,579)	(15,087)
Interagency Receipts (operating - all)	1,465	2,322	1,636	1,688	1,774	1,833	9,253
Miscellaneous Revenues	2,418	2,520	2,606	2,689	2,826	2,919	13,560
Total Operating Revenue	152,855	160,977	172,451	185,402	203,271	219,329	941,430
Operating Expenses							
Base O&M Budget (including all adjustments)	90,680	97,147	100,674	104,111	109,821	113,602	525,355
Capitalized Overhead (Deduction)	(15,300)	(15,774)	(16,500)	(17,028)	(17,896)	(18,487)	(85,685)
Total Operating Expenses	75,380	81,373	84,174	87,083	91,925	95,115	439,669
Total Operating Income	77,475	79,604	88,277	98,319	111,346	124,214	501,760
Non-Operating Income							
Interest Income	531	1,065	1,390	1,330	1,287	1,276	6,348
SDC Revenue	2,500	3,000	3,000	3,000	3,000	3,000	15,000
Cap. Contributions/Other	6,480	7,609	7,665	7,943	8,360	8,664	40,240
Others: Asset sales	(209)	(225)	(235)	(243)	(255)	(264)	(1,222)
Total Non-Operating Revenue	9,302	11,449	11,820	12,030	12,392	12,676	60,366
Net Revenue Available for Debt	86,778	91,053	100,097	110,349	123,738	136,890	562,126
Stabilization Transfer	2,300	5,200	900	5,700	9,700	7,900	29,400
Stabilized Net Revenue	$89,077	$96,253	$100,997	$116,049	$133,438	$144,790	$591,526
Debt Service Detail							
Debt Service - First Lien revenue bonds	$28,804	$36,199	$38,891	$48,640	$55,675	$62,159	$241,564
Debt Service - Second Lien revenue bonds	$22,050	$18,772	$18,778	$17,655	$17,665	$17,659	$90,529
Debt Service - Portland Building	$0	$0	$0	$0	$2,887	$2,887	$5,774
Debt Service Coverage Tests							
First Lien Revenue Bonds Only	3.01	2.52	2.57	2.27	2.22	2.20	
First Plus Second Liens Revenue Bonds Only	1.71	1.66	1.74	1.66	1.62	1.66	
Stabilized Test First and Second Lien	1.75	1.75	1.75	1.75	1.75	1.75	

* Other Water Sales Adjustments include delinquent charge revenue, and other offsets to water sales including: low-income discount on base and volume charge, safety net, voucher program, bad debt expense, and cash collected on prior year volume rate.

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Figure A8

STATEMENT OF SOURCES AND USES OF FUNDS

Fiscal Year	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
BEGINNING BALANCE	$163,354	$112,917	$138,952	$155,902	$143,768	$152,623	
REVENUES							
Water Sales	$150,910	$158,373	$170,873	$183,956	$202,346	$218,156	$933,703
Other Water Sales Adjustments*	(1,937)	(2,238)	(2,664)	(2,931)	(3,675)	(3,579)	(15,087)
Interagency Receipts	1,465	2,322	1,636	1,688	1,774	1,833	9,253
Other Miscellaneous Receipts	2,418	2,520	2,606	2,689	2,826	2,919	13,560
Interest Income	531	1,065	1,390	1,330	1,287	1,276	6,348
Total Revenue	$153,386	$162,042	$173,841	$186,732	$204,558	$220,605	$947,778
OTHER SOURCES OF FUNDS							
Bond Proceeds including Bond	0	91,840	110,225	90,085	82,795	0	374,945
Contributions	6,480	7,609	7,665	7,943	8,360	8,664	40,240
System Development Charges	2,500	3,000	3,000	3,000	3,000	3,000	15,000
Total NonOperating Sources of Funds	$8,980	$102,449	$120,890	$101,028	$94,155	$11,664	$430,185
TOTAL SOURCES OF FUNDS	**$325,720**	**$377,408**	**$433,683**	**$443,662**	**$442,481**	**$384,892**	
OPERATING BUDGET							
Operating & Maintenance	82,280	87,882	90,701	93,723	98,920	102,308	473,534
Utility License Fee	6,332	6,774	7,336	7,950	8,787	9,526	40,373
Pension Obligation Bond Debt	3,636	3,893	4,334	4,569	4,786	4,977	22,559
General Fund Overhead	4,763	5,372	5,638	5,819	6,116	6,317	29,262
Total Operating Budget	$97,012	$103,921	$108,010	$112,061	$118,608	$123,128	$565,728
CAPITAL COSTS							
Direct Capital (Total)**	64,937	79,563	112,102	121,539	95,022	83,205	491,431
Debt Service (Total)	50,854	54,971	57,669	66,295	76,227	82,705	337,867
Total Capital Costs	$115,791	$134,534	$169,771	$187,834	$171,249	$165,910	$829,298
TOTAL OUTLAYS	$212,803	$238,456	$277,781	$299,894	$289,857	$289,038	$1,395,026
ENDING BALANCE	$112,917	$138,952	$155,902	$143,768	$152,623	$95,854	
TOTAL USES OF FUNDS	**$325,720**	**$377,408**	**$433,683**	**$443,662**	**$442,481**	**$384,892**	

* Other Water Sales Adjustments include delinquent charge revenue, and other offsets to water sales including: low-income discount on base and volume charge, safety net, voucher program, bad debt expense, and cash collected on prior year volume rate.
** Direct Capital includes bond issuance costs in FY 2017 through FY 2020.

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(Amounts in 000's)

Figure A9

WATER OPERATING FUND

Fiscal Year	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
BEGINNING BALANCE	$16,680	$10,548	$15,004	$15,004	$15,001	$15,005	
RECEIPTS:							
Water Sales	$150,910	$158,373	$170,873	$183,956	$202,346	$218,156	$933,703
Other Water Sales Adjustments*	(1,937)	(2,238)	(2,664)	(2,931)	(3,675)	(3,579)	(15,087)
Interagency Receipts	1,465	2,322	1,636	1,688	1,774	1,833	9,253
Transfers from Construction Fund	81,124	96,252	129,558	139,554	113,956	102,763	582,083
Interest Income	185	297	415	382	306	218	1,618
Other Miscellaneous Receipts	2,418	2,520	2,606	2,689	2,826	2,919	13,560
TOTAL RECEIPTS	234,164	257,526	302,424	325,338	317,533	322,310	1,525,131
Transfer from Rate Stabilization Account	2,300	5,200	900	5,700	9,700	7,900	29,400
TOTAL SOURCES OF FUNDS	$253,145	$273,274	$318,328	$346,042	$342,234	$345,215	
EXPENDITURES							
Operation and Maintenance	$82,280	$87,882	$90,701	$93,723	$98,920	$102,308	$473,534
Transfers to Construction Fund	29,955	20,035	25,965	31,615	37,914	41,781	157,310
Direct Capital Costs	64,937	79,563	112,102	121,539	95,022	83,205	491,431
General Fund Overhead	4,763	5,372	5,638	5,819	6,116	6,317	29,262
Utility License Fee	6,332	6,774	7,336	7,950	8,787	9,526	40,373
Pension Obligation Bond Debt	3,636	3,893	4,334	4,569	4,786	4,977	22,559
Transfer to Water Bond Sinking Fund	50,693	54,751	57,247	65,826	75,685	82,099	335,608
TOTAL EXPENDITURES	242,597	258,270	303,324	331,041	327,229	330,213	1,550,077
ENDING BALANCE	10,548	15,004	15,004	15,001	15,005	15,002	
TOTAL USES OF FUNDS	$253,145	$273,274	$318,328	$346,042	$342,234	$345,215	

* Other Water Sales Adjustments include delinquent charge revenue, and other offsets to water sales including: low-income discount on base and volume charge, safety net, voucher program, bad debt expense, and cash collected on prior year volume rate.

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Figure A10

WATER CONSTRUCTION FUND

Fiscal Year	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
BEGINNING BALANCE	$75,252	$33,247	$53,511	$62,738	$49,259	$61,334	
RECEIPTS							
Capital Revenues	$8,980	$10,609	$10,665	$10,943	$11,360	$11,664	$55,240
Bond Proceeds	0	85,324	101,602	83,038	76,318	0	346,282
Transfer from Water Fund	29,955	20,035	25,965	31,615	37,914	41,781	157,310
Interest Income	184	547	553	480	439	452	2,471
TOTAL RECEIPTS	39,119	116,515	138,785	126,075	126,031	53,897	561,303
TOTAL SOURCES OF FUNDS	$114,371	$149,763	$192,296	$188,813	$175,290	$115,231	
EXPENDITURES							
Capital Reimbursement to Water	$81,124	$96,252	$129,558	$139,554	$113,956	$102,763	$582,083
TOTAL EXPENDITURES	81,124	96,252	129,558	139,554	113,956	102,763	582,083
ENDING BALANCE	33,247	53,511	62,738	49,259	61,334	12,467	
TOTAL USES OF FUNDS	$114,371	$149,763	$192,296	$188,813	$175,290	$115,231	

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Figure A11

WATER SINKING FUND

Fiscal Year	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
BEGINNING BALANCE *	$36,750	$36,750	$43,266	$51,889	$58,936	$65,413	
RECEIPTS							
Transfer from Water Fund	$50,693	$54,751	$57,247	$65,826	$75,685	$82,099	$335,608
Bond Reserve from Proceeds	0	6,516	8,623	7,047	6,477	0	28,663
Interest Earning from Bond Reserve	161	220	422	469	542	606	2,259
Transfers from Construction Fund	0	0	0	0	0	0	0
TOTAL RECEIPTS	$50,854	$61,487	$66,292	$73,342	$82,704	$82,705	$366,530
TOTAL SOURCES OF FUNDS	$87,604	$98,237	$109,558	$125,230	$141,640	$148,118	
EXPENDITURES							
Debt Service	50,854	54,971	57,669	66,295	76,227	82,705	$337,867
TOTAL EXPENDITURES	50,854	54,971	57,669	66,295	76,227	82,705	$337,867
ENDING BALANCE	36,750	43,266	51,889	58,936	65,413	65,413	
TOTAL USES OF FUNDS	$87,604	$98,237	$109,558	$125,230	$141,640	$148,118	

*The Bond reserve account is included within the Sinking Fund

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Figure A12

RATE STABILIZATION ACCOUNT

Fiscal Year	Revised Plan 2016	2017	2018	2019	2020	2021	Total Years 1-5
BEGINNING BALANCE *	$34,672	$32,372	$27,172	$26,272	$20,572	$10,872	
RECEIPTS							
Transfer from Water Fund	$0	$0	$0	$0	$0	$0	$0
TOTAL RECEIPTS	$0	$0	$0	$0	$0	$0	$0
TOTAL SOURCES OF FUNDS	$34,672	$32,372	$27,172	$26,272	$20,572	$10,872	
EXPENDITURES							
Transfer to Water Fund	2,300	5,200	900	5,700	9,700	7,900	$29,400
TOTAL EXPENDITURES	2,300	5,200	900	5,700	9,700	7,900	$29,400
ENDING BALANCE	32,372	27,172	26,272	20,572	10,872	2,972	
TOTAL USES OF FUNDS	$34,672	$32,372	$27,172	$26,272	$20,572	$10,872	

* Interest earnings are recorded in the Water Operating Fund

	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17	Proposed FY 2016-17
Resources						
Miscellaneous	848,592	890,048	903,800	891,900	891,900	
Total External Revenues	**848,592**	**890,048**	**903,800**	**891,900**	**891,900**	
Fund Transfers - Revenue	168,169	21,328	300,000	125,000	125,000	
Interagency Revenue	53,453	67,783	62,000	65,500	65,500	
Total Internal Revenues	**221,622**	**89,111**	**362,000**	**190,500**	**190,500**	
Beginning Fund Balance	282,288	398,245	419,400	222,700	222,700	
Total Resources	**1,352,502**	**1,377,404**	**1,685,200**	**1,305,100**	**1,305,100**	
Requirements						
Personnel Services	267,256	282,600	374,655	357,148	357,148	
External Materials and Services	152,785	72,657	415,369	283,700	283,700	
Internal Materials and Services	181,709	118,516	135,643	156,877	156,877	
Total Bureau Expenditures	**601,750**	**473,773**	**925,667**	**797,725**	**797,725**	
Debt Service	18,155	19,826	22,758	24,442	24,442	
Contingency	0	0	296,412	257,620	257,620	
Fund Transfers - Expense	334,352	403,921	440,363	225,313	225,313	
Total Fund Expenditures	**352,507**	**423,747**	**759,533**	**507,375**	**507,375**	
Ending Fund Balance	398,245	462,859	0	0	0	
Total Requirements	**1,352,502**	**1,360,379**	**1,685,200**	**1,305,100**	**1,305,100**	

Fund Overview

The Hydroelectric Power Operating Fund supports the administration and monitoring of the Portland Hydroelectric Project (PHP) through the Portland Water Bureau's Hydroelectric Power Division. Except for debt service on PHP revenue bonds, all expenditures needed to meet the City's responsibilities for the PHP are paid by this fund.

Resources

The primary revenue source for this fund is power sales payments made to the City by Portland General Electric (PGE) for the purchase of electricity that is generated at the PHP. The power sales revenue received by this fund consists of two PGE payments:

- PGE contributes an annually adjusted amount to reimburse the City's expenses associated with administration, regulatory compliance, and water quality monitoring related to PHP operations.
- PGE pays this fund a second amount that serves as a profit payment tied to the actual amount of power generated annually by the PHP. In an average year, this amount is about $230,000.

Managing Agency

Portland Water Bureau

Significant Changes from Prior Year

Payments from PGE

In FY 2016-17, the reimbursement from PGE to the City that is dedicated for administration, regulatory compliance, and water quality monitoring expenses related to the PHP is projected to be $649,850.

PGE pays the City annually for profit on power generated by the PHP which, for FY 2016-17, will provide a profit payment to the City that is projected to be approximately $226,000.

PHP Maintenance

The FY 2016-17 budget for the Hydroelectric Power Operating Fund has budgeted $125,000 in cash transfer revenues from the Hydroelectric Power Renewal and Replacement Fund as well as an equal amount of expenditures to reimburse PGE for the costs of ongoing repair and replacements to the PHP facilities. The cash transfers and reimbursements are only made in response to work actually done by PGE for the PHP.

PHP Contracts

In FY 2016-17 the City will have both City Staff and outside consultants working on developing power sales and operating and maintenance contracts for the PHP for the period starting in September of 2017.

	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17	Proposed FY 2016-17
Resources						
Miscellaneous	2,735,901	2,494,261	12,000	1,500	1,500	
Total External Revenues	**2,735,901**	**2,494,261**	**12,000**	**1,500**	**1,500**	
Total Internal Revenues	**0**	**0**	**0**	**0**	**0**	
Beginning Fund Balance	4,492,001	4,528,764	4,494,500	1,799,100	1,799,100	
Total Resources	**7,227,902**	**7,023,025**	**4,506,500**	**1,800,600**	**1,800,600**	
Requirements						
Total Bureau Expenditures	**0**	**0**	**0**	**0**	**0**	
Debt Service	2,699,138	2,690,451	2,670,276	1,788,051	1,788,051	
Debt Service Reserves	0	0	1,836,224	12,549	12,549	
Total Fund Expenditures	**2,699,138**	**2,690,451**	**4,506,500**	**1,800,600**	**1,800,600**	
Ending Fund Balance	4,528,764	4,332,574	0	0	0	
Total Requirements	**7,227,902**	**7,023,025**	**4,506,500**	**1,800,600**	**1,800,600**	

Fund Overview

The Hydroelectric Power Bond Redemption Fund pays the debt service due on revenue bonds that were issued to finance construction of the Portland Hydroelectric Project (PHP). This fund is required by the PHP power sales agreement between the City and Portland General Electric (PGE). The trustee for the City's Hydroelectric Power Revenue Refunding Bonds holds the assets in this fund and serves as paying agent for the bonds.

Managing Agency Portland Water Bureau

Significant Changes from Prior Year

In the FY 2016-17 budget, the funding source for the amount of resources needed to pay the debt service due on the outstanding Hydropower Revenue Bonds has changed in accordance with the directions in the Trust Indenture for those bonds. Until FY 2014-15, that funding source came from power sales payments made by PGE to this fund. In FY 2015-16 and FY 2016-17, funds that have previously been held in the Hydropower Debt Service Reserve portion of this fund are being used to make the payments due to the bondholders. On October 1, 2016, the last of the outstanding Portland Hydroelectric Power Revenue Refunding Bonds, series 2006 will be paid off.

	Actual FY 2013-14	Actual FY 2014-15	Revised FY 2015-16	Requested No DP FY 2016-17	Requested FY 2016-17	Proposed FY 2016-17
Resources						
Miscellaneous	448,292	310,300	476,300	428,000	428,000	
Total External Revenues	**448,292**	**310,300**	**476,300**	**428,000**	**428,000**	
Total Internal Revenues	**0**	**0**	**0**	**0**	**0**	
Beginning Fund Balance	10,075,960	10,394,099	10,454,900	10,863,900	10,863,900	
Total Resources	**10,524,252**	**10,704,399**	**10,931,200**	**11,291,900**	**11,291,900**	
Requirements						
Total Bureau Expenditures	**0**	**0**	**0**	**0**	**0**	
Contingency	0	0	10,631,200	11,166,900	11,166,900	
Fund Transfers - Expense	130,153	17,025	300,000	125,000	125,000	
Total Fund Expenditures	**130,153**	**17,025**	**10,931,200**	**11,291,900**	**11,291,900**	
Ending Fund Balance	10,394,099	10,704,399	0	0	0	
Total Requirements	**10,524,252**	**10,721,424**	**10,931,200**	**11,291,900**	**11,291,900**	

Fund Overview

The Hydroelectric Power Renewal and Replacement Fund is a sinking fund for the Portland Hydroelectric Project. The fund provides resources for the repair and replacement of major equipment and facilities that become damaged or in need of repair. The existence of this fund is required by the Portland Hydroelectric Project power sales agreement between the City and Portland General Electric, and the assets are held by the trustee for the City's Hydroelectric Power Revenue Refunding Bonds.

Managing Agency Portland Water Bureau

Significant Changes from Prior Year

The FY 2016-17 budget includes $125,000 for cash transfers to the Hydroelectric Power Operating Fund to pay for ongoing repair and replacements of the Portland Hydroelectric Project facilities.

HYDROELECTRIC POWER OPERATING FUND

CITY OF PORTLAND, OREGON

FY 2016-17

PRELIMINARY FINANCIAL PLAN

February 2016

PORTLAND WATER BUREAU

FROM FOREST TO FAUCET

City of Portland Water Bureau

Nick Fish, Commissioner

Michael Stuhr, Administrator

Introduction

Citywide Financial Management Polices and Procedure FIN 2.03.01 require that a financial plan be prepared for the Hydroelectric Power Operating Fund. This will be the second submission of a financial plan for this fund.

The Hydroelectric Power Operating Fund is the City of Portland financial fund through which the business activity for the City's Portland Hydroelectric Project (PHP) is conducted. The operating budget portion of this fund was previously budgeted as the Bureau of Hydroelectric Power through the FY 1998-99 budget. The Bureau of Hydroelectric Power is an enterprise bureau charged with developing and then operating hydroelectric projects for the City of Portland. In 1989, the City Code was amended to have the Bureau of Hydroelectric Power report directly to the Water Bureau and beginning with the FY 1999-00 budget, the Hydroelectric Power operating budget is now budgeted as the Hydroelectric Power Division in the overall Water Bureau budget submission.

Hydropower Financial Structure

The Hydroelectric Power financial structure is fee based in nature and is contained within three dedicated city funds of which the Hydroelectric Power Operating Fund is one. Due to the methods used for the initial financing of the PHP in the 1970s, profits realized from the operation of the PHP have been directed to the City's General Fund throughout its operating history. Over that period, those profits have amounted to $12.9 million.

There are three city funds that tie directly to the Portland Hydroelectric Project operation. Those funds all receive revenue from the sales of power generated at the PHP. That revenue is defined through a Power Sales Agreement (PSA) that was signed between the City of Portland and Portland General Electric (PGE) in 1979. The term of that agreement extends through August of 2017. The Hydroelectric Power Operating Fund (601000) contains the operating budget which is primarily funded by revenue from the sales of power generated at the PHP. The Hydropower Bond Redemption Fund (611000) has also received some of the revenue from the sales of power generated at the PHP and is used to pay debt service on the revenue bonds that were sold to finance the construction of the PHP. The Hydropower Renewal & Replacement (R&R) Fund (618000) is a sinking fund that also receives some of the revenue from the sales of power generated at the PHP and is used to pay for repairs or replacement of the facilities related to the PHP.

Within the main body of the City's annual CAFR audit, these three funds are rolled up into one fund that is referred to as the Hydroelectric Power Fund. Under the Enterprise Funds – Budget and Actual Section of the CAFR, the funds are detailed individually.

None of the Hydropower Funds are included in the Water Bureau's rate based financial structure for the Water Division portion of the overall Water Bureau budget.

Revenues for the Hydroelectric Power Operating Fund

The primary source of revenue for the Hydroelectric Power Operating Fund is from PHP power sales. From FY 2015-16 through FY 2016-17, the current PSA for the PHP defines how power sales payments will be made from PGE to the Hydropower Operating Fund as follows:

- A payment for the City's administration of the PHP's business activities which is based on a lump-sum amount that is inflated along with the Bureau of Labor's Consumer Price Index for All Urban Consumers.
- A profit payment for the generation of power at the PHP that is tied to the actual amount of power produced at the PHP during any given Contract Year which is dependent on the amount of precipitation falling in the Bull Run Watershed and the availability of the PHP powerhouses to operate when needed. That amount can range from $150,000 to $300,000 per year depending on the conditions experienced during that year. For the purposes of Hydropower's budgeting process, we adjust our historical average monthly power generation totals (based on a 33 year operating record) to account for the long term weather projections available to us. There are actually no reliable means for making any sort of accurate weather projections beyond a three month window so for power generation in future years, we use the historic average amounts.
- Another profit payment based on the difference between the unit cost paid by PGE for power received from the PHP and power generated at one of their own thermal power generation plants. This element does not generate revenue for the City at this time.

This fund receives cash transfers from the Hydropower R&R Fund as needed to reimburse PGE for performing repairs or replacements of the various facilities at the PHP.

After FY 2016-17, the power sales revenue coming to this fund will be defined by a new power sales agreement that has not yet been negotiated. As such, those revenues are unknown at this time. Work is underway on developing the framework needed to be able to market the PHP's power generation after August 31, 2017 and to enter into other agreements as needed for operating the PHP facilities. However, that work is not yet far enough along to be able to provide meaningful projections for this FY 2016-17 Hydropower Financial plan.

Another source of revenue for this fund is from an Interagency Agreement with the Water Division for work that Hydropower Division staff performs on Water Division owned facilities.

Expenses for the Hydroelectric Power Operating Fund

The Hydroelectric Power Operating Fund pays for the full range of operating expenses that most other city bureaus do:

- Personal Services – two full time staff members plus some limited-term part time staff
- Internal Services – Interagency Agreements with 13 other city entities
- External Services – operating expenses plus a pass through expense funded by cash transfers from the Hydropower R&R Fund

This fund also transfers an annual amount of Hydropower operating profits from this fund to the City's General Fund. That transfer amount is based on the ending fund balance projection from the previous fiscal year and the power generation projections and level of expenses expected in the current year. These annual transfers have ranged from $250,000 to $500,000 in recent years.

Upcoming issues that will affect the finances of the three Hydroelectric Power Funds

Prior to the end of August 2017, the City will need to have a new power sales agreement and a contract for the ongoing operation and maintenance of the PHP. In addition, there is 2.0 miles of high voltage transmission line from the former Bull Run PGE owned powerhouse to Dunn Corner substations that will need to be purchased or leased from PGE.

The nature and form of that new agreement will quite likely be much different than the existing agreement with PGE. The arrangements for the ongoing operation, maintenance and repairs for the PHP will also need to be determined.

Under the terms of the current PHP PSA between the City and PGE, PGE has been responsible for paying the City for the following annual amounts:

- An annual amount to meet the annual net debt service payments due to the bondholders per the debt schedule for the Portland Hydropower Revenue Bonds.
    - $2,490,726 for FY 2014-15
    - $0 for FY 2015-16 (payments made from a debt service reserve account)
    - $0 for FY 2016-17 (payments made from a debt service reserve account)
- An annual amount to be applied towards the City's costs of administration and water quality monitoring for the PHP approximately $600,000 to $690,000 per year
- Annual profit payments to the City of approximately $150,000 to $300,000 per year
- Annual payments to the Hydropower R&R Fund of approximately $150,000 to 450,000 per year to keep that fund at a specified level
- PGE has then had to absorb their own cost of operating, maintaining, and insuring the PHP (including regulatory fees) which has amounted to approximately $400,000 to $800,000 per year.

In the future, under a new PHP PSA that has yet to be negotiated:

- The City will be responsible for paying for all of its needed expenses associated with administering, operating and maintaining the PHP.
- The manner of paying for future repairs and replacements of the PHP facilities and equipment will need to be established. The previous Hydropower R&R Fund balance will have been distributed between PGE and the City in accordance with the terms of the current PHP PSA. There will be an opportunity to apply the City's portion of that money towards funding a new Hydropower R&R Fund that would be wholly owned by the City.
- The City will need to resume the provision of commercial insurance for the PHP facilities which will likely be in the $250,000 to $350,000 per year range.

City of Portland
Portland Water Bureau

HYDROELECTRIC POWER OPERATING FUND (601000)

Fiscal Year	Revised Budget FY 2016	FY 2017	FY 2018
BEGINNING BALANCE	419,400	222,700	
RECEIPTS			
Power Sales			
- Payments for Hydropower Administration	645,530	649,800	
- Payments for Power Production	249,670	235,100	
Interagency Receipts	62,000	65,500	
Cash Transfers from Hydro R&R Fund	300,000	125,000	
Interst Income	8,600	7,000	
Other Receipts	-	-	-
TOTAL RECEIPTS	1,265,800	1,082,400	-
TOTAL SOURCES OF FUNDS	1,685,200	1,305,100	-
EXPENDITURES			
Personal Services	374,655	357,148	
External M&S	415,369	283,700	
Internal M&S	135,643	156,877	
General Fund Overhead	36,099	20,820	
Persion Obligation Bond Debt	22,758	24,442	
Cast Transfer to General Fund	400,000	200,000	
Other Cash Transfers	4,264	4,493	
TOTAL EXPENDITURES	1,388,788	1,047,480	-
ENDING BALANCE	296,412	257,620	-
TOTAL USES OF FUNDS	1,685,200	1,305,100	-

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Nick Fish, Commissioner
Michael Stuhr, P.E., Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water

Date: February 1, 2016

To: Andrew Scott, City Budget Office

From: Cecelia Huynh, Finance Director

Subject: FY 2016-17 Budget – Fee Study

As required by the City's Financial Policy 2.06 to complete fee studies based upon cost-of-service principles, the Portland Water Bureau will be filing its annual rate ordinance for the first rate hearing on May 19, 2016 for rates and charges for water and water-related services during the fiscal year beginning July 1, 2016 to June 30, 2017.

The FY 2015-16 rate ordinance approved by City Council by Ordinance No. 187146 for FY July 1, 2015 to June 30, 2016 is available on the following website:

http://efiles.portlandoregon.gov/Record/7780562

c: Michael Stuhr, P.E., Administrator
Ryan Kinsella, CBO Budget Analyst

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Nick Fish, Commissioner
Michael Stuhr, P.E., Administrator

1120 SW 5th Avenue, Room 600
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Budget Equity Assessment Tool

CITY POLICY

This Budget Equity Assessment Tool is a general set of questions to guide city bureaus and their Budget Advisory Committees in assessing how budget requests benefit and/or burden communities, specifically communities of color and people with disabilities. As noted in Portland's 25-year strategic plan, the Portland Plan, Goal-Based Budgeting, and page 102:

When fully implemented, the new budget approach will direct City of Portland bureaus and offices to:

- Use an asset management approach to achieve more equitable service levels across communities and geographies.
- Track and report on service levels and investments by community and geography, including expanding the budget mapping process
- Assess the equity and social impacts of budget requests to ensure programs, projects and other investments to help reduce disparities and promote service level equity, improve participation and support leadership development.
- Identify whether budget requests advance equity, represent a strategic change to improve efficiency and service levels and/or are needed to provide for basic public welfare, health and/or meet all applicable national and state regulatory standards.

This is a critical part of the City of Portland's commitment to ending inequity. The mission and charge of the Office of Equity is to focus on ending inequality based on race and disability, and this document addresses these two specific populations.

However, it is the policy of the City of Portland that no person shall be denied the benefits of, or be subjected to, discrimination in any City program, service, or activity on the grounds of race, color, national origin, English proficiency, sex, age, disability, religion, sexual orientation, gender identity, or source of income. Additionally, the City's Civil Rights Title VI program guidelines obligate public entities to develop systems and procedures that guard against or proactively prevent discrimination, while simultaneously ensuring equitable impacts on all persons. Therefore, City bureaus are encouraged to use this document to assist in evaluating equitable impacts on all residents.

It is recommended that all managers and others who work on the budget for the bureau use this tool. Bureau Equity Committees may also be a resource in its completion. The Office of Equity and Human Rights is also available for discussion/training/consultation regarding the use of this document.

Portland Water Bureau

BUREAU/OFFICE/DEPARTMENT

SECTION ONE: ADVANCING EQUITY

1. How does this budget request increase, reduce, limit or eliminate programs or services that are vital to communities of color, immigrant and refugee communities and/or people living with a disability?

The Water Bureau FY 2016-17 Requested Budget does not reduce, limit or eliminate programs that are vital to communities of color, immigrant and refugee communities and/or people living with a disability. The bureau's mission is to provide reliable, safe drinking water to all its customers at a reasonable value.

The FY 2016-17 budget includes programs that provide continuing support to all communities equitably. The bureau has several programs to provide assistance or outreach to customers who may have lower incomes or are nonnative English speakers. The bureau's efforts include programs and policies to help customers pay their water bills, a program to help reduce household lead exposure, and outreach efforts targeted specifically to facilitate communication with all customers. The bureau has implemented translations of key materials in multiple languages and offers accommodations to provide materials in alternate formats for people with disabilities. The FY 2016-17 budget request includes plans to continue to expand and evaluate these efforts.

Water Bill Assistance and Payment

The Portland Water Bureau has one of the most expansive water-bill assistance programs in the United States. The bureau offers low-income assistance, crisis vouchers, a Safety Net program to assist customers with temporary financial hardships, and fixture repair assistance. The bureau's Low-Income Assistance Program assists economically challenged customers with bill payments. The bureau is committed to ensuring that all eligible customers are enrolled in the Low-Income Assistance Program. Information about the low-income program is currently available in Spanish, Russian, and Vietnamese. The FY 2016-17 budget includes a request for funds to translate the low-income outreach materials into six additional languages (Chinese, Romanian, Ukrainian, Japanese, Somali, and Arabic). The bureau's Customer Service call center also uses a service for translating telephone calls, when needed, and bureau outreach materials include language about accommodating needs for translation or formats for people with disabilities.

The bureau is also committed to helping all customers manage payments for sewer, stormwater, and water services. The Customer Service department can establish payment plans for customers who are having difficulties paying their quarterly utility bills. In FY 2014-15, the bureau opened its Monthly Statement Program to all customers, regardless of payment method. The Monthly Statement Program allows customers to pay based on monthly statements instead of quarterly invoices.

Water Efficiency Program

The bureau's Water Efficiency Program provides services to all customers with a focus on assisting low-income customers. The bureau evaluated and developed its water-efficiency information with input from focus groups of low-income participants. The bureau has offered toilet rebates and replacements directly to low-income customers and indirectly through multi-family housing owners and agencies that target low-income residents. The bureau provides workshops on minor plumbing repairs, and information and water-efficiency devices at Fix-It Fairs. The water efficiency program works with the Regional Water Providers Consortium to produce Spanish-language water efficiency radio and television messages each year. In the spring of 2016, the Water Efficiency program is undertaking a three-year pilot project to strengthen communication pathways and increase water efficiency in low-income customer households. The pilot

program will enroll 3,500 customers to increase customer awareness of water use and stimulate participation in water-use efficiency programs and rebates.

Lead Hazard Reduction Program

As part of a unique program to comply with the Lead and Copper Rule, the Portland Water Bureau provides resources for the reduction of lead exposure from all sources. These services are offered through grants to community organizations and agencies to provide outreach, education, testing and mitigation of all lead hazards. Agency grantees focus their outreach and education on lower-income residents who may not have equal access to lead hazard reduction education and information. The Portland Water Bureau and participating wholesale water systems also provide resources to reduce exposure to lead in water that include a free lead-in-water test kit for any customer who requests it, an informational brochure and tips for reducing household lead exposure, and a hotline for questions and issues about lead. The informational brochure and Lead-in-Water test kit are translated into Spanish, Russian, Vietnamese, and Chinese and include language about accommodating needs for translation or formats for people with disabilities.

One-Time Customer Survey on Service Levels

As part of its asset management approach, the bureau will be surveying residential customers on some of its service level targets in FY 2016-17. The one-time survey, which will include demographic questions, is designed to reach customers in single-family homes as well as those living in apartments (who are typically lower-income residents), customers that may not have Internet access, and customers whose first language is not English. The goal of the survey is to gather information to help the bureau improve service to all customers. A secondary goal is to pilot methods for reaching typically underrepresented customers to assess the efficacy of the outreach methods. The survey will begin in Spring of 2016.

Public Information and Involvement

The Water Bureau is committed to responsible and meaningful public participation for major projects and program initiatives. This participation is crucial to increasing customers' awareness of water-resource management issues, alerting and working with neighborhoods and communities to construct capital projects, and building sustainable community partnerships. At the outset of any major project, the Communications Group conducts a stakeholder analysis incorporating both communities of place and communities of interest. The bureau's outreach plans ensure timely information and outreach activities, conducted at accessible locations at times that facilitate attendance or participation by the affected public.

Some of the bureau's regulatory materials are translated into multiple languages for non-English-speaking customers. The annual Water Quality Report is available in Spanish, Russian, Vietnamese, and Chinese. Some of the key water quality documents have been translated into nine languages (Spanish, Russian, Chinese, Vietnamese, Romanian, Ukrainian, Japanese, Somali, and Arabic). These key documents include the Notice to Boil Water, notification that the Boil Water Notice has been lifted, and a list of Frequently Asked Questions. The bureau is evaluating it approach to general outreach about groundwater protection to include more graphical elements, in order to communicate with customers, regardless of the language spoken. All distributed written materials include language about accommodations available for people with disabilities.

Education Program

The Portland Water Bureau's Education Program provides opportunities for school students and adults to learn about Portland's drinking water. School education programs are available to all requesting schools.

Classroom lessons and field trips are free of charge, but the school must arrange and pay for transportation. Because transportation costs can create a barrier to participation, the Portland Water Bureau may make a partial transportation reimbursement (as budgets allow) for schools that request it. Schools designated as Title I schools under the Elementary and Secondary Education Act (indicates that the number of students qualifying for free and reduced lunch is 60% or greater) that request transportation reimbursement are eligible to receive up to 100% of the transportation cost, as funds allow.

When staffing allows, the Education Program will provide programs in Spanish for predominantly Spanish-speaking audiences. Bull Run Watershed tours are offered in Spanish for Spanish-immersion schools and some education activity materials and key documents (such as brochures and liability waivers) are translated into Spanish. The bureau also participates in Explorando el Columbia Slough, an annual Spanish-language event designed to raise awareness about the protected area around the Columbia South Shore Well Field.

Budget Oversight

One of Commissioner Fish's priorities is for the bureau to focus and concentrate its efforts to apply an equity lens to the services it provides its customers in addition to increasing the diversity of the bureau's workforce. The members of the Portland Utility Board, which has budget oversight, also evaluate the bureau's budget and programs for equity issues.

2. What considerations were taken into account in this request to maximize equity?

The bureau considered the increased costs of the Low Income Assistance Programs and the Monthly Statement Program. These programs require funding and have an impact on water rates that are distributed across all customer classes. The budget also includes allocations to

- expand the number of core documents to be translated into other languages such as Spanish, Russian, Chinese, and Vietnamese.
- evaluate multiple programs for outreach to communities of color and limited English proficiency.
- survey customers to better understand service impacts to communities and ensure that service levels are equitably applied.

The bureau plans to adopt a training program to help key staff understand the requirements of Title VI of the 1964 Civil Rights Act and Title II of the 1990 Americans with Disabilities Act. The training will also include resources for implementing the requirements. The bureau is also tracking requests for outreach materials in other languages and complaints about accessibility, to guide future actions.

SECTION TWO: PERSONNEL

Bureau-wide equity work includes participation on two committees: the Water Bureau Equity Committee and the City Equity Committee. The internal Water Bureau Equity Committee is conducting an audit of bureau policies and procedures around recruitment and hiring practices with regard to equity. The internal committee is using employee feedback and data from an engagement survey to focus on hiring, training, and promotion, as well as staff awareness of equity issues. A team of bureau staff, representing all work groups is in the process of developing the bureau's equity plan using the Roadmap tool developed by the Office of Equity.

Recruitment, Hiring, and Retention

The bureau participates in Oregon Tradeswomen Career fairs, Insight Career fairs (targeting people with disabilities), and internship programs such as Future Connect and engineering internships. The bureau actively engages in its recruitment outreach for veterans, people of color, and individuals with disabilities. Interview questions are reviewed for bias and the bureau uses diverse hiring panels to ensure that the selection process does not unfairly impact certain groups. All hiring panel members must first complete training in bias awareness before participating. The bureau has worked closely with the staff in the Bureau of Human Resources (BHR) to recruit and hire two of the most gender and ethnically diverse hiring classes of apprentices in recent memory.

The bureau continues with its established Apprenticeship Programs for field positions. These programs provide opportunities for women and people of color to acquire specialized skills to work in the water industry. These are entry-level positions that typically result in progression to higher-level technical, supervisory, and managerial positions. The bureau has also reviewed some of the field position classifications to evaluate how the work can be performed differently to remove barriers that may limit underrepresented workers, including disabled individuals, from qualifying for the position.

Staff Training and Equity Awareness

For existing employees, the bureau provides cross-training opportunities, rotational upgrade opportunities, and training in preparing resumes and interviewing to help current employees develop qualified skills to advance in their careers. All staff are required to attend the City-sponsored Equity 101 Training and are provided opportunities to attend the Annual City/County Diversity Conference.

3. What is the impact on employees of color?

The bureau's plans to improve and increase internal awareness and make policies and practices more equitable that are intended to enhance opportunities for and remove barriers for employees of color and people with disabilities. The bureau monitors the demographics of its staff, although staff with disabilities are not required to identify themselves as such. Recent hires as a result of improved recruitment have greatly increased the diversity of incoming staff.

As of December 31, 2015, PWB had 549 employees in regular positions. The racial and ethnic breakdown of these employees is:

80% white
6.6% black
5.3% Asian
3.8% Hispanic
2% Two or more races or ethnicities
1.6% Native American
0.4% Pacific Islander

For updates, please visit the Office of Equity and Human Rights website at https://www.portlandoregon.gov/oehr/eeoswf.cfm?&fullscreen=no.

4. What is the impact on employees with a disability?

People with disabilities are not required to identify their status as such. However, on December 31, 2015, there were 10 employees at the Water Bureau who had self-identified as disabled.

SECTION THREE: PROGRAMS/SERVICES

If your bureau or office has multiple programs, please address the budget request for each program or groups of programs.

5. How does this program or service align with the goal of advancing equity?

The Supply, Treatment, Transmission & Terminal Storage, Distribution, Regulatory Compliance and Water Quality, Customer Service, and Support Programs all focus on providing water to all Portland Water Bureau customers, irrespective of the customer's race, ethnicity, disability, or geography.

The Customer Service Program includes providing billing, account services, and collections to all Portland retail customers. The Low-Income Assistance Programs and the Monthly Statement Program will assist the bureau with advancing equity as discussed above. The Water Efficiency Program assists customers with efficiently using water, as part of helping customers manage their sewer and water bills.

The Distribution Program includes maintaining the distribution system such as pump stations/tanks, mains, valves, service lines, hydrants, and meters to provide water service to customers' homes. The bureau will gather customer feedback by geographic areas to gauge community perceptions about water service. The survey may provide the bureau with more information to determine how best to ensure that all customers are provided water services equitably.

The Support Program includes functions that supports the bureau's mission to provide water service to all its customers. This program includes the apprenticeship programs, recruitment and organizational development, public involvement and information, financial management, and planning. Part of the bureau's planning includes the Asset Management Branch. A key focus of asset management is analyzing the costs associated with operating risky assets. The risk-cost analyses assign dollar values to social, environmental, and economic events that are likely to occur if an asset failures. The events may include a personal injury or damage to a home from fire. The bureau's approach is to assign a single dollar value to an event, regardless of the race or ethnicity of the person or the neighborhood of the home. The bureau's program for identifying and reducing risks is one of the most important initiatives in the FY 2016-17 Requested Budget.

6. Identify the impacts of the budget request on specific geographic areas: (Citywide/Regional; Northeast; Northwest; North; Central; Northeast; Southeast; Southwest; East; Central City; or Unknown)

The bureau provides water service to the entire City and region. The Bureau employs a rigorous asset management approach to determine maintenance, repair and replacement needs of the water system on a system-wide basis, irrespective of geographic location.

7. What areas of the city will be impacted by your program or service and is there a larger than average population of people of color in those areas?

See response to Question 6 above.

8. Identify potential impacts on people living with a disability.

See response to Question 6 above.

SECTION FOUR: EQUITABLE PUBLIC PARTICIPATION

9. How does this budget build community capacity and power in communities most impacted by inequities? (e.g., improved leadership opportunities within BAC, community meetings, stakeholder groups, increased outreach, etc.)

The PUB was created in the fall of 2015 in time for the FY 2016-17 budget process and is served by a balanced, diverse and equitable group of individuals.

The bureau will continue its ongoing effort to build community support, expand and improve its outreach, and foster communication with all of the communities it serves.

Michael Stuhr, P.E., Administrator
Portland Water Bureau

2/2/16
Date

187773

May 31, 2016

Testimony
City Council Agenda Item 529 "Authorize rates and charges for water related services.

Below please find additional comments on the requested budget for the Portland Water Bureau.
Document: Portland Water Bureau, Public Utilities Service Area

Page 28
Changes to Services and Activities: **This program includes $361,000 and 2.0 FTE added** to support the addition of capabilities to the Bureau's existing Water Quality Laboratory to perform in-house Cryptosporidium analysis as outlined in the decision package.

Page 62 Decision Package summary
To date, the PWB has been meeting the BRTVB monitoring conditions **by shipping water samples across the country to accredited private contract laboratories** – of which only a handful exist....Furthermore, **the commercial Crypto lab industry is projected to decline**, which could result in lab closures, leaving the PWB with few choices of accredited labs or ability to control costs.

PUBLIC COMMENT
In October 2015, Portland Water Bureau entered into an Intergovernmental Agreement with Colorado State University to do cryptosporidium testing for $200,000 for a period of two years, stating in the ordinance (Ordinance 187438, attached) that the current (at the time) Intergovernmental Agreement with another unspecified non-private lab was ending. In the impact statement, PWB stated that $100,000 for the first year was in the budget for 2015-2016, and another $100,000 would be requested for budget 2016-2017 for the second year.

This request is not in the budget request for this year. And this is not a private lab nor is it a water quality lab, but rather a university animal lab.

According to the document, page 62, 2016-2017 will be the setup year and 2017-2018 would be the first year operational. **Then why are 2 FTE added THIS YEAR at $231,100, when the lab will not be ready until the next year at which point, according to the budget request document, page 62, the FTE will be funded by the outside contracts that will expire. This $231,000 should be cut from the budget request.**

As stated in my previous testimony, the Grants Pass Water Lab (www.gpwaterlab.com), in Grants Pass, OR is the **only Oregon state certified lab to do waterborne parasite testing including cryptosporidium and giardia**.

WHY WAS THIS LAB NOT CONSIDERED? WHY WAS AN INTERGOVERNMENTAL AGREEMENT DONE WITH AN OUT OF STATE UNIVERSITY ANIMAL LAB, when this lab, in operation for decades and in a depressed, high unemployment part of our state WAS NOT USED, ASKED TO BID OR EVEN CONSIDERED.

I have spoken with the Grants Pass Water Lab by phone and they confirmed that they would welcome the business from the Portland Water Bureau and have the capacity to do so.

This misdirected budget request should be cut from the budget, given there is a water quality lab in OREGON that **is not** projected to close down and could certainly use the business. An in-house lab overseen by the Portland Water Bureau raises red flags all around as the ratepayers have very little trust for the management of the Water Bureau, due to its massive debt and its flawed, unnecessary capital projects that have no health benefit and that degrade our water.

Sincerely,

Dee White
3836 SE 49th Ave.
Portland, OR 97206

187773

ORDINANCE NO. 187438

Authorize an Intergovernmental Agreement with the Board of Governors of the Colorado State University System for Laboratory Services for *Cryptosporidium* Wildlife Scat Analysis (Ordinance)

The City of Portland ordains:

Section 1. The Council finds:

1. The City recognizes that on March 14, 2012, the Oregon Health Authority (OHA) issued its Final Order granting the City of Portland's request for a variance to the treatment requirements of the Long Term 2 Enhanced Surface Water Treatment Rule under 42 USC § 300g-4(a)(1)(B). The Bull Run Treatment Variance is subject to the conditions specified by OHA in the Final Order IV(1) to (5).

2. In order to maintain compliance with the scat monitoring condition of the Final Order and maintain the Bull Run Treatment Variance, the City must retain the services of a laboratory to test scat samples for the presence of *Cryptosporidium*.

3. The Board of Governors of the Colorado State University System, acting through Colorado State University, was selected to complete this work.

4. The not-to-exceed value of this agreement is $200,000.

5. Funding for the project is available in the FY 2015-16 Budget and will be requested in the FY 2016-17 Budget.

NOW, THEREFORE, the Council directs:

a. That the Water Bureau Administrator is authorized to execute on behalf of the City an Intergovernmental Agreement with the Board of Governors of the Colorado State University System to provide laboratory services in accordance with the agreement attached as Exhibit A.

b. The Mayor and Auditor are hereby authorized to draw and deliver checks chargeable to the Water Fund when demand is presented and approved by the proper authorities.

c. Amendments increasing the total compensation of the Intergovernmental Agreement may be agreed to and executed by the Water Bureau Administrator up to twenty-five percent of the total agreement amount. Any increase exceeding twenty-five percent of the total compensation would need City Council approval.

Passed by the Council, NOV 12 2015

Mary Hull Caballero
Auditor of the City of Portland
By Susan Parsons
Deputy

Commissioner Nick Fish
Ann Richter
October 2, 2015

187773 1140

~~1134~~ 1171 –

Agenda No.
ORDINANCE NO. 187438
Title

Authorize an Intergovernmental Agreement with the Board of Governors of the Colorado State University System for Laboratory Services for *Cryptosporidium* Wildlife Scat Analysis (Ordinance)

INTRODUCED BY
Commissioner/Auditor:
Commissioner Nick Fish

CLERK USE: DATE FILED OCT 27 2015

COMMISSIONER APPROVAL

Mayor—Finance and Administration - Hales

Position 1/Utilities - Fritz

Position 2/Works - Fish

Position 3/Affairs - Saltzman

Position 4/Safety - Novick

BUREAU APPROVAL

Bureau: Water
Bureau Head: Michael Stuhr, P.E.

Prepared by: Ann Richter
Date Prepared: October 2, 2015

Impact Statement
Completed ☒ Amends Budget ☐

Portland Policy Document
If "Yes" requires City Policy paragraph stated in document.
Yes ☐ No ☒

City Auditor Office Approval:
required for Code Ordinances

City Attorney Approval:
required for contract, code, easement, franchise, comp plan, charter

Council Meeting Date
November 4, 2015

Mary Hull Caballero
Auditor of the City of Portland

By: _____
Deputy

ACTION TAKEN:

NOV 04 2015 **PASSED TO SECOND READING** NOV 12 2015 **9:30 A.M**

AGENDA

TIME CERTAIN ☐
Start time: _____

Total amount of time needed: _____
(for presentation, testimony and discussion)

CONSENT ☒

REGULAR ☐

Total amount of time needed: _____
(for presentation, testimony and discussion)

FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS:		
		YEAS	NAYS
1. Fritz	1. Fritz	✓	
2. Fish	2. Fish	✓	
3. Saltzman	3. Saltzman	✓	
4. Novick	4. Novick	✓	
Hales	Hales	✓	

187773
187438

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Nick Fish, Commissioner
Michael Stuhr, P.E., Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water

IMPACT STATEMENT

Date: October 2, 2015

Council Date: November 4, 2015

Legislation Title: Authorize an Intergovernmental Agreement with the Board of Governors of the Colorado State University System for Laboratory Services for *Cryptosporidium* Wildlife Scat Analysis (Ordinance)

Contact Name: Ann Richter

Contact Phone: 503-823-6135

Purpose of proposed legislation and background information:
The purpose of this legislation is to authorize an Intergovernmental Agreement with the Board of Governors of the Colorado State University System to provide laboratory services for the analysis of wildlife scat samples for *Cryptosporidium*.

On March 14, 2012, the Oregon Health Authority (OHA) issued its Final Order granting the City of Portland's request for a variance to the treatment requirements of the Long Term 2 Enhanced Surface Water Treatment Rule under 42 USC § 300g-4(a)(1)(B). The Bull Run Treatment Variance is subject to wildlife scat monitoring conditions specified by OHA in the Final Order, IV(1)(a)(D)(iii). In order to comply with these conditions, the City must retain the services of a laboratory to test scat samples for the presence of *Cryptosporidium*.

The Intergovernmental Agreement with the Water Bureau's current scat laboratory is nearing completion and a new agreement is needed to ensure continuity of service. The Board of Governors of the Colorado State University System is capable and willing to provide the required laboratory services through its researchers at the Colorado State University Veterinary Diagnostic Laboratories. The scope of work for this agreement has been developed to meet the Water Bureau's compliance requirements for the Bull Run Treatment Variance, as well as additional work that may be needed to support the variance.

Financial and budgetary impacts:
The not-to-exceed value of this agreement is $200,000 and it is intended to last two years. The Water Bureau anticipates spending up to $100,000 per year. Funding for this project is available in the FY 2015-16 Budget and will be requested in the FY 2016-17 Budget.

187773

187438

Community impacts and community involvement:
In 2008, Portland City Council directed the Water Bureau to seek a treatment variance to the LT2 Rule for the purpose of benefitting the community by avoiding the costs of building an expensive treatment plant that would have no measureable public health benefits. The Bull Run Treatment Variance was granted by OHA in 2012 and the Water Bureau has met all conditions of the variance to date. The current proposed legislation maintains the community interest by enabling the Water Bureau to continue meeting the conditions of the Bull Run Treatment Variance.

This legislation is a continuation of the laboratory services that are necessary to support the Bull Run Treatment Variance. As such, no public involvement was included in the development of this Council item.

Budgetary Impact Worksheet

Does this action change appropriations?

☐ **YES**: Please complete the information below.
☒ **NO**: Skip this section

Fund	Fund Center	Commitment Item	Functional Area	Funded Program	Grant	Sponsored Program	Amount

Michael Stuhr, P.E., Administrator

10/8/15
Date

187773
187438

Exhibit A

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Nick Fish, Commissioner
Michael Stuhr, P.E., Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water

CITY OF PORTLAND Agreement No.: 30004597
COLORADO STATE UNIVERSITY Agreement No. _____

Pursuant to CITY Ordinance Number _____

INTERGOVERNMENTAL AGREEMENT

This Intergovernmental Agreement ("IGA" or "Agreement") is entered into by and between THE CITY OF PORTLAND, OREGON, acting by and through its WATER BUREAU, hereafter called "CITY" or "PWB" and THE BOARD OF GOVERNORS OF THE COLORADO STATE UNIVERSITY SYSTEM, ACTING BY AND THROUGH COLORADO STATE UNIVERSITY, FOR THE BENEFIT OF THE DEPARTMENT OF CLINICAL SCIENCES ("CSU"). The CITY and CSU are referred to herein individually as a "Party" and collectively as the "Parties."

Pursuant to ORS 190.010, the CITY is authorized enter into a written agreement with any other unit or units of local government for the performance of any or all functions and activities that a party to the agreement, its officers or agencies, have authority to perform. Upon approval by CITY Council through the CITY's Ordinance process and upon final signature of both Parties approving authorities this Agreement shall be effective.

RECITALS

A. The purpose of this Agreement is for CSU to conduct laboratory services for *Cryptosporidium* analysis in wildlife fecal samples and other technical services in support of the Bull Run Treatment Variance.

B. CSU is a comprehensive, land-grant university with experience and resources in a field of mutual interest between CSU and the CITY.

C. CSU shall perform the services desired by the CITY in accordance to the Scope of Work described in Exhibit A and per the terms outlined under this Agreement.

D. Performance of such services is consistent, compatible and beneficial to the academic role and mission of CSU as an institution of higher education.

E. This Agreement (including any exhibits and attachments hereto) constitutes the entire Agreement among the parties hereto.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. INDEPENDENT CONTRACTORS

It is understood and agreed by the Parties that CSU is an independent contractor with respect to the CITY and that this Agreement is not intended and shall not be construed to create an employer/employee relationship or a joint venture relationship between CSU and the CITY. CSU shall be free from the direction and control of the CITY in the performance of CSU's obligations under this Agreement, except that the CITY may indicate specifications, standards requirements and deliverables for satisfaction of CSU's obligations under this Agreement.

2. SUMMARY OF WORK AND BUDGET

A. CSU agrees to provide routine testing of wildlife fecal samples to determine the presence or absence of *Cryptosporidium*. CSU agrees to attempt genotyping of any samples found to be positive for the presence of *Cryptosporidium*. The CITY anticipates collecting between five (5) and twenty-five (25) fecal samples per month, but not more than 300 samples per year. In the course of the work, the CITY may require additional technical services from CSU. Additional technical services may include, but are not limited to method modifications and optimization, interpretation of sample results, or expert opinion. These types of services shall be pre-approved and must be authorized via Work Order (a sample is attached to this Agreement as ***Attachment 1, Sample Work Order***) document prior to work being completed. Work Orders shall be issued through the PWB's Contract Administration Branch (CAB).

B. Professional Standard of Care: CSU shall perform all services under this Agreement with care, skill and diligence, in accordance with the applicable professional standards currently recognized by similar professionals in this community in similar circumstances, and shall be responsible for the professional quality, technical accuracy, completeness, coordination and timeliness of all services furnished under this Agreement.

C. **The following is a summary of the budget:** CSU shall be reimbursed for sample analysis on a unit cost basis, as described in the Exhibit B, Budget Detail, to this Agreement. The unit cost for the Sample Analysis shall represent the total cost of performing the specified analysis and reporting the results including labor and benefits, supplies, consumables, equipment and CSU's overhead costs of 22.5% for building operating costs, CSU equipment, administrative services and management and support service costs associated with this Agreement. The overhead rate of 22.5% shall be for the life of this Agreement.

Technical services beyond individual sample analysis shall be reimbursed on an hourly basis as described in Exhibit B, Budget Detail and must be pre-approved and agreed upon via Word Order document signed by both parties. Additional analyses and/or technical services requested via Work Order shall include a budget and be included as an attachment to the Work Order.

D. The CITY has authorized a total not to exceed amount of **$200,000** to fund the services required under this Agreement. Funding in the amount of $100,000 is currently budgeted in the Fiscal Year (FY) 2015-16. Funding in the amount of $100,000 will be requested by the PWB in FY 2016-17 Budget. The CITY's Fiscal Year is defined as July 1 through June 30 of each year.

E. A detailed scope of work, deliverables and budget are set forth and attached to this Agreement as **Exhibit A, Statement of Work** and **Exhibit B, Budget Detail**. A Work Order form is attached as **Attachment 1, Sample Work Order**.

3. TERM

Work shall commence upon CITY's approval, via CITY Ordinance and upon the Agreement being signed by both parties approving authorities. The Agreement shall expire on **September 30, 2017**. This Agreement is subject to renewal only by a written amendment to the agreement mutually agreed upon by parties and per the requirements of CITY Council, which are subject to change.

4. BILLING PROCEDURES AND COMPENSATION

A. The CITY shall compensate CSU in accordance with the rates specified in the attached **Exhibit B, Budget Detail**.

B. Nothing in this Agreement requires the CITY to pay for work that does not meet the Standard of Care or other requirements of this Agreement.

CSU shall promptly perform such additional services as may be necessary to correct errors in the services required by this Agreement without undue delays and without additional cost. CSU shall bear all costs associated with requested corrections. Typographical and/or clerical errors shall be corrected and returned to the CITY Project Manager within 2 working days. CSU shall present written corrective actions taken within 15 calendar days of any other non-clerical error violation.

C. The CITY's policy is to pay its invoices via electronic funds transfers through the automated clearing house (ACH) network. To initiate payment of invoices, CSU is required and shall execute the CITY's standard ACH Vendor Payment Authorization Agreement. This is available on the CITY's website at https://www.portlandoregon.gov/brfs/index.cfm?&a=409834&.=

Upon verification of the data provided, the Payment Authorization Agreement shall authorize the CITY to deposit payment for services rendered directly into CSU accounts with financial institutions. All payments shall be in United States currency. Payment of any invoice, however, does not preclude the Collaborator from later determining that an error in payment was made and from withholding the disputed sum from the next monthly payment until the dispute is resolved.

D. By the 15th of the month following the end of the previous month after the effective date, CSU shall submit via email to the CITY an invoice for work performed during the previous month. Each invoice shall include the following:
(1) Identify the CITY's Agreement Number.
(2) Period of performance when work was completed.
(3) CITY's Project Manager's Name.
(4) Identify the tasks that was completed and briefly describe the work completed, the outcome, include any follow-up action or work still to be completed, timeframe for completion and percent of task currently complete.
(5) When work applies to a Work Order, include the Work Order Number and briefly describe the work completed, address any follow-up action or work still to be completed, timeframe for completion and include a percentage of work that has been completed.
(6) Itemized costs, including hourly rates, include subconsultant names and rates.

E. Invoices shall **only** be submitted to the Portland Water Bureau Finance Office electronically. Email address is as follows: wbaps@portlandoregon.gov

F. The CITY shall pay CSU based on these invoices for acceptable work performed and approved by the CITY's Project Manager. Any estimate of the hours necessary to perform the work is not binding on the CITY. CSU remains responsible if the estimate proves to be incorrect. Exceeding the number of estimated hours of work does not impose any liability on the CITY for additional payment.

G. CSU shall attach photocopies of claimed reimbursable expenses. CSU shall stamp and approve all subconsultant invoices and note on the subconsultant invoice what they are approving as "billable" under the Agreement. The billing from CSU must clearly roll up labor and reimbursable costs for CSU and subconsultants– matching the subconsultant invoices.

H. The CITY shall pay all amounts to which no dispute exists within 30 days of receipt of the invoice. Payment of any bill, however, does not preclude the CITY from later determining that an error in payment was made and from withholding the disputed sum from the next progress payment until the dispute is resolved.

I. CSU shall make full payment to its subcontractors within 10 business days following receipt of any payment made by the CITY to CSU.

J. CSU shall fully cooperate with a CITY Audit of the records at any time. CSU shall also fully cooperate with an audit to account for all expenses if necessary.

5. **REPORTING REQUIREMENTS**

A. CSU shall provide reports on the progress of the services as required in the **Scope of Work, Exhibit A**.

B. Both parties Project Managers, identified further in this Agreement, shall confer quarterly to review project management, staffing needs and performance to identify desired changes if necessary. Meeting minutes will be maintained for record by both parties.

C. The assignment as Project Manager is for the full term of the Agreement. Should either party require to replace their assigned Project Manager during the term of the Agreement the requesting party shall notify the other party's Project Manager in writing, and if required, they shall meet to discuss and agree on any necessary adjustment to provide adequate time to make such change. Any changes to the assigned Project Manager requires a written amendment to the Agreement and must be signed by both parties' delegated authorities.

6. **DELEGATION OF AUTHORITY**

A. CSU has delegated the Vice President for University Operations as CSU's approving authority for the Board of Governors of the Colorado State CSU System, further sub-delegated to the Director of Budgets. This delegation and sub-delegation includes signature authority for this Agreement, amendments and Work Orders for the Agreement and authority to give notices and to carry out other actions referred to herein, including termination of the Agreement as provided in under Section 7, Termination.

B. The CITY Ordinance authorizing this Agreement, delegates the CITY's Water Bureau Administrator as the approving authority for the CITY. This delegation includes authority to sign the Agreement once CITY Council has approved the legislation authorizing this Agreement. Amendments increasing the total compensation of the Agreement may be agreed to and executed by the CITY's Water Bureau Administrator up to twenty-five percent of the total agreement amount. Any increase exceeding twenty-five percent of the total compensation would need City Council approval. The CITY's Water Bureau Administrator has the authority to give notices and to carry out other actions referred to herein, including termination of the Agreement as provided in this Agreement under Section 8, Termination and per CITY procurement rules and code.

C. The CITY's Water Bureau Administrator has delegated signature authority to the Water Bureau Operations Group Director for Work Orders approved under this Agreement.

7. **PROJECT MANAGEMENT AND ADMINISTRATION**

A. **CSU.**

i. CSU has assigned **Michael Lappin** as responsible for the day-to-day management of this Agreement as provided herein and serves as first level of conflict resolution.

ii. **Valeria Scorza** has been assigned by CSU as the Project Manager who shall carry out the responsibilities designated in this Agreement. The assignment as Project Manager is for the full term of the Agreement.

B. CITY.

i. The CITY has assigned **Sarah Silkie** as the Project Manager responsible for the day-to-day management of this Agreement as provided herein, who will carry out the responsibilities designated in this Agreement and serves as the first level of conflict resolution.

ii. The CITY'S Water Bureau (WB) Contract Administration Branch (CAB) is assigned as the CITY's contact for contract administration and all revisions to the Agreement, amendments or Work Orders.

iii. Any conflicts between the parties requires immediate notification by the CITY's Project Manager to the CITY's Water Bureau CAB.

C. CONTACTS:

Unless otherwise stated in this Agreement, the designees named below shall be the primary contact for all activities relating to the Work/Services to be performed under this Agreement.

CSU Project Manager:
Name: Valeria Scorza
Address: 1678 Campus Delivery
Fort Collins, CO 80523-1678
Phone: 970-297-4247
Email: Andrea.Scorza@ColoState.edu

CITY Project Manager:
Name: Sarah Silkie
Address: 1900 N. Interstate Ave, B320-M
Portland, OR 97227
Phone: 503-823-7168
Email: Sadie.Silkie@PortlandOregon.gov

CSU Administrative:
Name: Michael Lappin
Address: 1678 Campus Delivery
Fort Collins, CO 80523-1678
Phone: 970-481-8586
Email: Michael.Lappin@ColoState.edu

CITY WB CAB Representative:
Name: Andrew Urdahl
Address: 1120 SW 5th Avenue, Room 600
Portland, OR 97204
Phone: 503-823-7490
Email: Andrew.Urdahl@PortlandOregon.gov

8. TERMINATION

This Agreement may be terminated by either party. The CITY on thirty (30) days written notice may terminate this Agreement. CSU on ninety (90) days written notice may terminate this Agreement. In the event of an early termination, CSU shall be reimbursed for any completed work or work in progress at the time of termination of the Agreement and that the CITY agrees has been completed per the requirements of the Agreement. This provision shall survive the termination of the Agreement.

9. NON-DISCRIMINATION

In carrying out activities under this Agreement, neither party shall discriminate against any employee or applicant for employment because of race, color, religion, sex, age, handicap, familial status or national origin. Either party shall take affirmative actions to insure that applicants for employment are employed and that employees are treated during employment, without regard to their race, color religion, sex, age, handicap, familial status or national origin. Such action shall include but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff of termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

10. ACCESS TO RECORDS

Both parties and their duly authorized representatives shall have access to the books, documents, and records which are directly pertinent to the specific Agreement for the purpose of making audit, examination, excerpts and transcript.

11. PUBLICATION

Services conducted under this Agreement are intended to be of a collaborative nature between the CITY and CSU. As such, the CITY and CSU Project Manager shall jointly prepare and submit any initial publications resulting from work completed under this Agreement. Both CITY and CSU personnel shall be identified as authors when appropriate. The CITY and CSU shall jointly hold right to any final publication.

12. INDEMNIFICATION

CSU shall be responsible to the fullest extent allowed under the law for its own negligence, and the negligence of its employees and authorized volunteers acting within the scope of their actual authority. It is expressly understood and agreed that nothing contained in this Agreement shall be construed as an express or implied waiver by CSU of its governmental and sovereign immunities, as an express or implied acceptance by CSU of liabilities arising as a result of actions which lie in tort or could lie in tort in excess of the liabilities allowable under the Colorado Governmental Immunity Act, C.R.S. 24-10-101 et seq., as a pledge of the full faith and credit of the State of Colorado, or as the assumption of any of the parties of a debt, Agreement or liability of each other in violation of Article XI, Section 1 of the Constitution of Colorado. CSU is liable for breach of Agreement in the same manner as any private party would be under the same or similar circumstances.

Subject to the conditions and limitations of the Oregon Constitution, Article XI, Section 9, and the Oregon Tort Claims Act (ORS 30.260 to 30.300) CITY shall indemnify, defend and hold harmless CSU from and against all liability, loss and costs arising out of or resulting from the negligent or intentionally wrongful acts of CITY, its officers, employees and agents in the performance of this Agreement.

13. INSURANCE

CSU shall maintain workers' compensation insurance through the duration of this Agreement. During the term hereof CSU represents that it maintains general liability insurance covering itself and its employees in the performance of this Agreement, in an aggregate amount of not less than one million dollars ($1,000,000), all or part of which may be self-insured. CSU shall furnish the CITY a certificate evidencing such insurance upon written request.

14. SUBCONTRACTING AND ASSIGNMENT

CSU shall not subcontract its work under this Agreement, with the exception of work identified in this Agreement or attached Statement of Work, without the written consent of the other party. Only an amendment to the Agreement will authorize the addition of additional subcontractors. An amendment, to add a subcontractor to the Agreement, is required prior any work being performed by a CSU or their preliminary subcontractor. CSU shall assure that all subcontractors used to perform the services under this Agreement, meet the CITY'S Codes pertaining to permits, workmen's compensation, licensing, and all other requirements.

15. DISPUTES

The party's designated representatives, identified in this Agreement, shall expend their best efforts to amicably resolve any dispute that may arise under this Agreement. Any dispute that the parties are unable to resolve shall be submitted to the Director of CSU or his/her designee and the CITY of Portland Water Bureau Administrator or his/her designee for resolution.

16. OREGON LAWS AND FORUM

[Reserved]

17. FUNDS AVAILABLE AND AUTHORIZED

The CITY certifies that sufficient funds in Fiscal Year (FY) 2015-16 are available and authorized for expenditure to finance costs of this Agreement within current appropriation and limitation. Funding for FY 2016-17 associated with this Agreement will be requested. In the event of any extension or non-appropriation, the CITY shall notify CSU its intent to terminate this Agreement. The CITY's contribution for the two year term of the Agreement is contingent upon receipt of approval by CITY Council and upon continuation of funding.

18. SEVERABILITY

If any term or provision of this Agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular term or provision held to be invalid.

19. COMPLIANCE WITH APPLICABLE LAW

Both parties shall comply with all federal, state and local laws, regulations, executive orders and ordinances applicable to the Work under this IGA. Without limiting the generality of the foregoing, parties expressly agrees to comply with (i) Title VI of Civil Rights Act of 1964; (ii) Section V of the Rehabilitation Act of 1973; (iii) the Americans with Disabilities Act of 1990 and ORS 659.425; (iv) all regulations and administrative rules established pursuant to the foregoing laws; (v) Any applicable sections of ORS Chapter 279, and (vi) all other applicable requirements of Federal and State civil rights and rehabilitation statues, rules and regulations.

20. FORCE MAJEURE

Neither Party shall be held responsible for delay or default caused by fire, riot, acts of God and war which are beyond its reasonable control. The affected party shall, however, make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon cessation of the cause, diligently pursue performance of its obligation under the Agreement.

21. NO THIRD PARTY BENEFICIARY

The CITY and CSU are the only parties to this Agreement and such are the only parties entitled to enforce its terms. Nothing contained in this Agreement gives or shall be construed to give or provide any benefit, direct, indirect, or otherwise to third parties unless third persons are expressly described as intended to be beneficiaries of its terms.

22. MERGER CLAUSE

This Agreement constitutes the entire agreement between the parties. No waiver, consent, modification or change of terms of this Agreement shall bind either party unless in writing and signed by both parties. Such waiver, consent modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. There are no understandings, agreements, or representations, oral or written not specified herein regarding this Agreement.

23. AMENDMENTS

The CITY and CSU may amend this Agreement at any time only by written amendment executed by both parties. The CITY of Portland Water Bureau Administrator, upon approval by City Council, is authorized to approve amendments for CITY to this Agreement that do not increase the total agreement amount above 25% of the original Agreement amount. CSU shall submit a written request to the CITY's Project Manager prior to any amendments to the Agreement. Any amendment to the Agreement shall require the signature of both parties' approving authorities. Amendments increasing the total contract amount above 25% of the original Agreement amount shall require approval of City Council for every increase.

The CITY of Portland Water Bureau Administrator has delegated signature authority to the CITY of Portland Water Bureau Operations Group Director for Work Orders supported by this Agreement and do not increase the total Work Order amount above 25% of the original Work Order amount. Amendments increasing the total Work Order amount above 25% of the original Work Order amount shall require approval of CITY of Portland Water Bureau Administrator for every increase. An amendment to the original Agreement may be necessary if applicable.

24. HEADINGS

Paragraph headings are for reference and convenience only and shall not be determinative of the meaning or the interpretation of the language of this Agreement.

25. OWNERSHIP OF DOCUMENTS

A. The CITY and CSU shall jointly own any and all data, documents, plans copyrights, specifications, working papers, and any other materials produced in connection with this Agreement.

B. CSU upon request by the CITY shall provide the CITY copies of the materials referred to above, including any electronic files containing the materials.

26. SEVERABILITY/SURVIVAL

If any of the provisions contained in this IGA are held unconstitutional or unenforceable, the enforceability of the remaining provisions shall not be impaired. All provisions concerning the limitation of liability, indemnity, publication and conflicts of interest shall survive the termination of this IGA for any cause.

27. CONFLICTS OF INTEREST

No CITY Officer or employee, during his or her tenure or for one year thereafter, shall have any interest, direct, or indirect, in this Agreement or the proceeds thereof. No board of director member or employee of CSU, during his or her tenure or for one year thereafter, shall have any direct financial interest in the Agreement or the proceeds thereof. No CITY Officer or employees who participated in the award of this agreement shall be employed by CSU during this Agreement.

28. CONTRIBUTION

If any third party makes any claim or brings any action, suit or proceeding alleging a tort as now or hereafter defined in ORS 30.260 ("Third Party Claim") against a party (the "Notified Party") with respect to which the other party ("Other Party") may have liability, the Notified Party must promptly notify the Other Party in writing of the Third Party Claim and deliver to the Other Party a copy of the claim, process, and all legal pleadings with respect to the Third Party Claim. Either party is entitled to participate in the defense of a Third Party Claim, and to defend a Third Party Claim with counsel

of its own choosing. Receipt by the Other Party of the notice and copies required in this paragraph and meaningful opportunity for the Other Party to participate in the investigation, defense and settlement of the Third Party Claim with counsel of its own choosing are conditions precedent to the Other Party's liability with respect to the Third Party Claim.

With respect to a Third Party Claim for which CSU is jointly liable with the CITY, CSU shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by the CITY in such proportion as is appropriate to reflect the relative fault of CSU in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as other possible relevant equitable considerations. The relative fault of CSU on the one hand and of the CITY on the other hand shall be determined by reference to, among other things, the parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. CSU's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law if the State had sole liability in the proceeding. Nothing in this Agreement shall serve as a waiver of any governmental immunities of either party.

29. COUNTERPARTS

This Agreement may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same Agreement.

30. EFFECTIVE DATE AND DURATION

This Agreement shall be effective upon final date of execution and terminate on September 30, 2017, unless otherwise agreed to by both parties under the provisions of this Agreement.

Dated this_____ day of _____, 2015.

187773
187438

AGREED:

STATE OF COLORADO

John W. Hickenlooper, GOVERNOR

Board of Governors of the Colorado State CSU System,
acting by and through Colorado State CSU
Dr. Anthony Frank, President

Signature: Angela Nielsen (Aug 25, 2015) Date: Aug 25, 2015

Angela Nielsen, Director of Budgets

REQUIRED APPROVALS:

Signature: Michael Lappin (Aug 25, 2015) Date: Aug 25, 2015

Michael Lappin, Director, Veterinary Diagnostic Lab

***FUND ACCT NO.:**

APPROVED AS TO FORM:

Signature: Grant Calhoun (Aug 18, 2015) Date: Aug 18, 2015

Grant N. Calhoun, JD, Assistant Legal Counsel/Director of Contracts

187773

187438

CITY Agreement Number: 30004597

CITY Ordinance No. _____

CITY OF PORTLAND SIGNATURES

Signature: _____ Date: 10/8/15

Michael Stuhr, P.E., Administrator
Portland Water Bureau

APPROVED AS TO FORM:
APPROVED AS TO FORM

By: _____ Date: 10/2/15

Office of City Attorney
CITY ATTORNEY

CITY Agreement No: 30004597

Exhibit A, Statement of Work

1. BACKGROUND

On March 14, 2012, the Oregon Health Authority (OHA) issued its Final Order granting CITY[1] of Portland Water Bureau's (PWB) request for a treatment variance under 42 USC § 300g-4(a)(1)(B). Variance Final Order condition 1(a)D requires that PWB sample Bull Run wildlife scat for *Cryptosporidium* at least semi-annually. The primary purpose of this Agreement is to provide analysis of wildlife scat samples collected from the Bull Run watershed in compliance with the Variance Final Order.

CSU[2] shall perform the following services or any combination of the following services at the request of the CITY's Project Manager (PM). CSU's PM and their designees shall work closely with the PWB PM and their designees to provide the services described in this Statement of Work and shall be required to complete the requested work within the identified turn-around times and due dates provided by the CITY's PM. Unless noted otherwise, the PWB PM shall coordinate sample collection and shipment to CSU along with a description of the analyses that shall be performed by CSU. For the duration of the Agreement, CSU shall maintain the necessary capability and capacity to satisfy the scope of work of this Agreement.

A. Task 1 – Detection of *Cryptosporidium* Oocysts and/or DNA

CSU shall provide routine testing of wildlife fecal samples to determine the presence or absence of *Cryptosporidium* oocysts.

1) Sampling frequency and amount – The CITY anticipates sampling up to five (5) times per month during the dry season (June-September), up to four (4) times per month in October before there is snow on the ground, and up to two (2) times per month during the wet season (October-May). The CITY anticipates collecting between five (5) and twenty-five (25) wildlife scat samples per month, but not more than a total of 300 samples per year. The actual number of samples that are collected may be less than the anticipated number based on the ability of CITY field personnel to locate scat samples in the Bull Run Watershed. The CITY may schedule additional sampling in response to a *Cryptosporidium*-positive water or scat sample, to investigate contamination vulnerabilities, or for special studies.

2) Analysis Method – Any of the following methods may be requested from the CSU for the detection and/or enumeration of *Cryptosporidium* in wildlife fecal deposits:
   - Immunofluorescence assay (IFA), i.e. Merifluor;
   - Sucrose-gradient separation;
   - Screening 18S ribosomal deoxyribonucleic acid (rDNA) Polymerase Chain Reaction (PCR); and,
   - HSP-70 PCR.

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[1] THE CITY OF PORTLAND, OREGON, acting by and through its WATER BUREAU, hereafter called "CITY" or "PWB"

[2] THE BOARD OF GOVERNORS OF THE COLORADO STATE UNIVERSITY SYSTEM, ACTING BY AND THROUGH COLORADO STATE UNIVERSITY ("CSU" or "UNIVERSITY").

As new analytical methods are developed and validated, new methods may be added to this list through a written Work Order issued by CITY's PWB Contract Administration Branch (CAB). The scope of work, schedule, deliverables and compensation for each Work Order shall be established in writing prior to commencement of the work and must be approved and signed by both parties' delegated authorities. A sample Work Order form is attached as **Attachment 1, Sample Work Order** to this Exhibit A.

3) Quality Control – CSU shall implement standard quality control protocols, including the use of internal controls for ongoing quantification of method performance. For each wildlife species that is targeted by this project, CSU shall spike scat samples with an internal control at a standard frequency of at least one scat sample out of every ten (10) scat samples that are analyzed, unless otherwise requested by the PWB PM.

4) Sample Storage – CSU shall store any remaining unprocessed portion of each scat sample under suitable refrigeration for a minimum of three (3) months. Any remaining fraction of the processed portion of the sample shall also be stored for a minimum of three (3) months. If the total mass of a scat sample is five (5) grams or less, the whole sample shall be processed and a portion stored. Stored samples shall be treated with antibiotics to prevent sample degradation. For small rodents and snowshoe hare, a sample may consist of a composite of multiple small droppings pooled by species. For these species, at minimum 2/3 of each composite sample shall be stored as specified above. Any *Cryptosporidium*-positive scat sample shall be stored for a period of twelve (12) months.

B. Task 2 – Genotyping of *Cryptosporidium*-positive samples – Any of the following methods may be requested from CSU for the identification of *Cryptosporidium* species and genotypes found in Bull Run wildlife fecal samples:

- Genotyping 18S rRNA PCR;
- HSP-70 PCR;
- GP60 PCR;
- DNA Sequencing; and,
- BLAST analysis.

As new analytical methods are developed and validated, new methods may be added to this list through a work order issued by PWB's CAB.

C. Task 3 – Consulting Services – In the course of this project, the CITY may require additional technical services from CSU. Additional technical services may include, but are not limited to method modifications and optimization, interpretation of sample results, expert opinion, or other technical assistance relevant to communicating the significance of sample results.

These types of services shall be authorized via work orders issued by PWB's CAB. Work Orders shall be issued as project needs are identified. The Work Order will establish the scope of work, schedule, deliverables, and compensation for each project. Work Orders require each party's approval in writing to proceed. Work Orders shall include an Exhibit A that identifies the work background, scope of work, and the deliverables required by the UNIVERSITY via the Work Order. In addition, an Exhibit A1, Budget Detail shall be included as an attachment to the Work Order and provide a clear and not to exceed budget for the work to be performed by the University per the Work Order.

PWB's delegated authority is the Operations Group Director. This authority may be delegated and assigned to another member but may only be designated in writing. A copy of the delegation will be provided by the CITY's PM to the CSU PM and the PWB CAB.

Work shall not commence until the Work Order is signed by both parties and submitted to the CITY PWB CAB. The CITY PM will follow by issuing a Work Order Notice to Proceed to the CSU PM. The notice may be sent via email to the CSU PM along with a PDF of the signed Work Order. Any changes to a signed Work Order must be completed as an as an amendment to the Work Order.

PROJECT MANAGEMENT

Project Management - CSU has designated Valeria Scorza as the CSU PM. The CSU PM shall be the main point of contact and shall be responsible for ensuring that all work is performed according to the Agreement and notifying the PWB PM if any agreement provisions cannot be met.

The CSU PM shall work with the PWB PM to establish and document work flow processes, including but not limited to sample shipment, sample receipt, analyses and reporting of all results to PWB. The CSU PM shall be responsible for ensuring that the agreed upon work flow processes are followed by CSU staff. If the CSU PM shall not be available for an extended time-period (more than three days) at any time, the PWB PM shall be notified and a CSU designee shall be assigned as the CSU contact during that time.

The CITY has designated Sarah Silkie as the CITY PM. The CITY PM or their designee, Ann Richter, shall be responsible for the following tasks:

- Coordinating with CSU to develop work flow processes;
- Providing sampling schedules and notifying CSU of changes to the schedules;
- Notification of sample shipment listing the sample(s) that have been shipped, sample information, requested analyses, and turn-around times;
- Notification of special requests such as unscheduled samples, or rush turn-around times;
- Reviewing laboratory results and other deliverables prepared by the UNIVERSITY; and,
- Providing CSU data or other information relevant to the project, as needed.

SPECIFIC WORK REQUIREMENTS

A. Sample work flow – CSU shall work with the CITY PM to establish and document a sample work flow process, including but not limited to sample shipment, sample receipt, laboratory analyses, and reporting of all results to the CITY PM.

B. Shipping Containers – CSU shall provide all necessary shipping containers suitable for shipping samples to the laboratory. Shipping containers shall include ice packs, packing material, and any other items necessary for adequate sample shipment.

C. Container shipment – Containers shall be shipped at cost to the CITY. CSU shall provide for timely delivery of shipping containers to:

City of Portland Water Bureau
Attn: Sadie Silkie
Water Quality Compliance
1900 N. Interstate Avenue
Portland, OR 97227

D. Chain of custody – CSU shall provide electronic copies of all chain of custody manifest forms. Electronic copies of chain of custody forms shall be delivered to the CITY PM in an editable file such as MS Word or Excel.

E. Sample collection and shipment instructions – CSU shall provide via email sample collection, preservation, and shipping instructions.

F. Laboratory operating procedures – Upon request, CSU shall provide via email the standard operating procedure (SOP) employed by the laboratory for each analysis to be performed under the Agreement for this work.

G. Sample receipt and acceptance – CSU shall report, via email to the CITY PM, within one (1) business day of sample receipt, and report any samples received by the laboratory in unacceptable condition, or rendered unacceptable for analysis while in the possession of the laboratory.

H. Laboratory services and analytical requirements – For the analysis of *Cryptosporidium* in fecal deposits, CSU shall use the method(s) requested by the CITY in the Chain of Custody (COC). CSU shall follow the laboratory standard operating procedures that have been provided to the CITY for the requested analysis. Any modifications or changes to the standard operating procedures shall be communicated to and approved by the CITY PM prior to implementing the change.

WORK PERFORMED BY THE CITY

The CITY will be responsible for the specific duties listed below and through the designated CITY PM shall be responsible for providing support for this project as needed.

A. The CITY will designate a PM, Sarah Silkie, who shall be responsible for coordinating all CITY work under this Agreement. Sarah Silkie's designee is Ann Richter.

B. The CITY PM will coordinate with CSU to develop a sample work flow process and a sampling schedule. The sampling schedule shall be divided into the dry (June-September) and wet (October-May) seasons.

C. The CITY will review any documents prepared by CSU.

D. The CITY will provide CSU with Bull Run wildlife fecal samples needed to optimize methods or modification or to run quality control procedures, as agreed upon with the CITY PM.

DELIVERABLES

All deliverables and resulting work products from this contract shall become the joint property of the CITY of Portland. As such, CSU grants the CITY the right to copy and distribute (in any and all media and formats) project deliverables for regulatory, project certification/recognition, program development, public education, and/or for any purposes at the sole discretion of the CITY of Portland.

CSU shall provide the CITY PM with reports and electronic data of sample results. All reports shall be complete, accurate, formatted as required, and submitted by e-mail directly to the CITY PM by the requested turn-around time.

CSU shall provide the following reports:

1) Individual Sample Result Reports - CSU shall provide results for each scat sample and matrix spike sample analyzed in a format to be agreed upon by the PWB PM and the UNIVERSITY. Individual sample reports are included in the per sample costs listed below. Reports shall be complete, accurate and formatted as required. Reports shall be received by the CITY PM and designated CITY personnel within a turn-around-time of ten (10) business days (Monday through Friday, not including public holidays and weekends) from CSU's receipt of each scat sample.

   Each report shall consist of the following elements and shall be submitted as one (1) PDF document to the CITY PM and designated CITY personnel:
   - Laboratory report;
   - Scanned copy of the laboratory bench sheet(s) for each analysis completed;
   - Scanned copy of the laboratory slide examination form (if microscopy conducted); and,
   - Scanned copy of the completed chain of custody form.

   The laboratory report shall at a minimum include the following information for each sample:
   - Sample ID;
   - Sample collection date
   - Wildlife species;
   - Analytical procedure(s);
   - Number of replicates;
   - Fecal mass analyzed;
   - PCR confirmed presence or absence of *Cryptosporidium;*
   - Species or genotype of *Cryptosporidium* (if applicable);
   - Number of native *Cryptosporidium* oocysts by IFA (if applicable);
   - Number of spiked *Cryptosporidium* oocysts (if applicable);
   - Number of recovered *Cryptospordium* oocysts (if applicable); and,
   - Percent recovery of spiked oocysts (if applicable).

   The bench sheet shall include, at a minimum, the CITY sample ID, the analysis start and end date and time, sample volume processed, number of replicates, counts or positive/negative status of native *Cryptosporidium* oocysts for microscopic analyses, and if applicable sample spiking dose and recovery for *Cryptosporidium* oocysts. For molecular analyses, the bench sheet shall also include the PCR assays employed, and number of wells positive and negative, as well as relevant negative and positive controls results.

2) *Cryptosporidium*-positive Follow-up Reports – for each *Cryptosporidium*-positive sample that undergoes genotyping and/or any other follow-up analysis, CSU shall provide a detailed report of all work that was completed within a turn-around-time of twenty (20) business days from the date of the initial positive identification. The follow-up report shall include the same elements as the Individual Sample Result Reports, in addition to any DNA sequences obtained, a BLAST analysis of the sequence(s) obtained and a short narrative stating whether the sample can be identified as a particular species or genotype. The CITY PM may request that additional information be included in the report and shall communicate the nature of this information to the CSU PM as soon as possible. The cost of *Cryptosporidium*-positive follow-up reports is included in the per-unit costs listed below, except for the narrative and any additional information requested by the CITY PM. The cost of the narrative section of the report and any additional information may be charged on an hourly basis according to the rates specified below.

FAILURE TO COMPLETE ON TIME

CSU shall notify the CITY PM immediately by telephone (503-823-7168) and by email (Sadie.Silkie@portlandoregon.gove) if any analyses cannot be reported within the required turn-around time. Data reports submitted more than five (5) business days past the required turn-around time or the chronic late submission of reports for any number of days past the required turn-around times may be considered grounds for termination of the Agreement. City designee Ann Richter shall also be notified by telephone (503-823-6135) and e-mail (Ann.Richter@portlandoregon.gov).

CSU PERSONNEL

CSU shall assign the following Key Personnel to do the work in the capacities designated. Key personnel shall not be replaced without prior authorization from the CITY PM and may only occur through an amendment to the Agreement.

NAME	ROLE ON PROJECT
Michael Lappin	Laboratory Director
Valeria Scorza	Project Manager

SUBCONSULTANTS

CSU shall assign the following subconsultants to perform work on an as-needed basis in the capacities designated:

NAME	ROLE ON PROJECT
George Di Giovanni – University of Texas School of Public Health	Genotyping of *Cryptosporidium* Expert opinion

Exhibit B, BUDGET DETAIL

COMPENSATION

CSU shall be reimbursed in accordance with the rates below. The Sample Analysis unit costs represents the total cost of performing the specified analysis and reporting the results including all CSU overhead costs, which are set at a rate of 22.5%[3]. The CSU overhead (OH) rate under this Agreement and any amendments to this Agreement shall not exceed 22.5%.

The unit costs listed below may only be changed through a request by the CSU PM to the CITY PM in writing. If approved, an amendment to the Agreement shall be required and must be signed by both parties delegated authorities identified in Section 6 of this Agreement, before authorizing any payments under this Agreement.

DESCRIPTION	Unit Cost, including OH
SAMPLE ANALYSIS	
Cryptosporidium assay	$185.00
Genotyping	
DNA Sequencing and Alignment	$125.00
BLAST Analysis	$125.00
Quality Assurance / Quality Control (QA/QC)	
PCR Internal Control	$95
SUPPLIES AND SHIPPING	
Shipment of packing container to CITY (cost per shipment)	Cost plus 22.5%

Key CSU Personnel shall be billed at the following rates:

Name	Hourly Rate
Michael Lappin, DVM, Ph.D.	$180.00
Valeria Scorza, Ph.D.	$180.00

Subconsultant Personnel shall be billed at the following rates:

Name	Hourly Rate
George Di Giovanni	$220.00

The maximum markup on subconsultant services shall not exceed 22.5% throughout the term of the Agreement. Limited use of CSU's subconsultant is required by the CITY and necessary in order to control costs. Prior to CSU utilizing the subconsultant for services the CSU PM shall obtain prior authorization in writing from the CITY PM before beginning any work. Using the subconsultant for work under any Work Order requires pre-authorization and must be approved through a signed Work Order per the terms of the Agreement.

[3] For example, includes labor and benefits, supplies, consumables, equipment building operating costs, CSU equipment, administrative services and contract management and support.

187773

Citizens' Utility Board of Oregon

May 19, 2016

To: Portland City Council
From: Janice Thompson, Citizens' Utility Board of Oregon (CUB)
Re: Portland Public Utilities Rate Hearing Comments

FY 2016-17 Utility Bureau Budgets

Bureau of Environmental Services (BES)

Thank you for adopting CUB's recommendation to address a significant cost recovery gap in the fees that BES charges for their building plan and land use reviews that ensure compliance with environmental standards. The cost recovery rate for these fees has been declining and is expected to be 45% or lower in the current fiscal year. The result has been an ongoing and increasing revenue loss that has been made up by residential ratepayers. This is an inappropriate subsidy to developers.

CUB began the discussion with a 90% cost recovery rate proposal to ensure a significant increase over the current 45% level. Our goal was met with the adoption of a 75% cost recovery rate. (Less than full cost recovery is appropriate given the value to the system of adding new customers.) This action also provides a definitive cost recovery standard and prevents the previous pattern of the cost recovery rate declining year by year. In FY 2016-17, this City Council response to CUB's recommendation is estimated to increase BES revenues by $1.4 million, dollars that will be kept in the pockets of ratepayers. Additional revenues will be ongoing, though the exact amount will vary.

The initial rate increase projection from BES for FY 2016-17 was 3.45%, but this has been reduced to 3.25% due to increased use of the rate stabilization fund and the City Council's positive response to CUB's advocacy to address this cost recovery gap.

CUB also appreciates the clear signal provided by BES to Mayor Hales and Commissioner-in-Charge Fish about their commitment for rigorous review of the biogas utilization project at the Columbia Boulevard Wastewater Treatment Plant. No change in the rate ordinance is required but this commitment is backed up by a significant CIP budget adjustment for FY 2016-17. Planning resources in the next fiscal year for this project are appropriate and CUB will continue to monitor this effort. It is quite possible that project elements and partnerships will align such that this effort will generate revenue for ratepayers on an acceptable payback schedule and at an acceptable level of risk, but we won't hesitate to urge ending this project if the economics don't pencil out or other BES priorities are deemed more important.

Portland Water Bureau (PWB)

The PWB budget includes CUB's major recommendations to the Bureau and Commissioner-in-Charge Fish during the course of budget development that were retained in the Mayor's proposed budget.

A major CUB priority was adding public education and outreach capacity particularly targeted to underserved communities. Such capacity is broadly needed, but CUB's particular interest was a robust outreach effort on the availability of monthly billing. CUB supports the monthly billing option for the following reasons:

- It facilitates monthly household budget management.
- Comparison between a household's other monthly bills and a monthly public utility bill is more informative for customers.
- A vigorous monthly billing outreach effort can inform future discussions of possibly moving from quarterly meter reading to monthly reads, a change that would be a significant expense for PWB.

For all these reasons, CUB will continue to monitor monthly billing outreach as well as other outreach efforts facilitated by the expanded education and outreach capacity facilitated by the FY 2016-17 budget.

The other major CUB priority was to fund Mt. Tabor historic preservation work done by PWB with general fund dollars. Our rationale is that since the Mt. Tabor reservoirs are not connected, CUB does not view them as essential elements of the water system and the work identified in the PWB/Mt. Tabor Neighborhood Association agreement is not needed for water system operation. For this reason, CUB does not support using ratepayer dollars to honor the City Council's $4 million commitment.

A critical question we considered in developing this position is what would PWB do if the Mt. Tabor reservoirs were damaged in an earthquake? This question is particularly pertinent since severe damage to those seismically vulnerable reservoirs would occur during an earthquake significantly less intense than the Cascade Subduction zone quake. In other words it won't take "the big one" to cause severe damage to Mt. Tabor reservoirs with the high likelihood that they would become rubble. In that or any similar circumstance the PWB would not and should not repair or replace them. This is in contrast to a quake or other event damaging a functioning and needed water pipe or other feature of the water system which would then be repaired, or possibly retired sooner than otherwise planned and replaced. All this reinforces CUB's view that the disconnected Mt. Tabor reservoirs are not an essential component of the water system and do not justify use of ratepayer dollars. CUB urges that this funding approach continue into the future.

City Council Engagement with Oversight Groups

The Utility Oversight Blue Ribbon Commission stressed the importance of City Council demonstrating an engaged partnership with the oversight players, CUB and the Portland Utility Board (PUB). CUB followed

up with suggestions to Commissioner-in-Charge Fish and the City Budget Office (CBO) on ways to ensure that this call from the Blue Ribbon Commission was turned into reality. CUB thanks the efforts of Commissioner Fish and CBO to ensure inclusion of CUB and PUB in the City Council work sessions on BES and PWB budgets as well as setting aside a dedicated time window at budget forums for utility related testimony. This latter recommendation from CUB was more time and resource efficient than the 2014 and 2015 community forums focused solely on BES and PWB budgets, but carried on the spirit of that approach by ensuring that testimony on public utilities had a designated spot at budget forums and hearings in 2016.

Combined Rate Increase in Context

The BES rate increase is 3.25% and the PWB rate increase is 7% resulting in a combined increase of 4.45%. This continues a recent trend of combined Portland public utility rate increases coming in under 5%. This Portland public utility rate increase is less than rate increases frequently seen for cable and related services but higher than has been recently seen in Oregon regarding private energy utility rates. However, the overall trend in all these utility rates is upward. One exception is natural gas prices that have declined in large part due to fracking though externalities such as environmental impacts of fracking are not included in current prices.

Updates and Observations

CUB has been monitoring numerous efforts at BES and PWB but I want to update the City Council on some key issues raised during my testimony at last year's utility rates hearing.

PWB

Retail Water Use:

Declining water use, especially by retail customers, is a trend seen across the country as well as in Portland. PWB recognizes this decline but in the last decade there have been gaps between actual retail demand and PWB water use projections. This gap has been narrowing reflecting improvements in PWB water use estimates. Even better is that it seems quite likely that FY 2015-16 actual retail water demand will meet or possibly exceed PWB water use estimates. Continued caution is required but it also seems that retail water use in Portland is leveling off or at least the rate of decline in water demand is easing.

BES

Stormwater System Plan:

My focus on monitoring the development of this plan is due to the statement that "the extent of stormwater system needs is unknown" in the 2014 Citywide Assets Report. This information gap is a major barrier to effective risk assessment and cost benefit analysis required for meaningful CIP planning for stormwater projects and how they interact with grey infrastructure. The BES staff focused on this effort have been very responsive to my continued monitoring and are making steady and meaningful progress.

CBO review of BES and PBOT's Maintenance Operations interagency agreement:

In the context of discussions about the extent to which PBOT street sweeping should be paid for by BES, CUB as pleased to learn last year that CBO was planning a review of the PBOT/BES interagency agreement and generally following up on a December 2010 City Auditor report that "found that there is sufficient evidence of potential cost reductions to warrant further study of the operational costs and benefits involved in ending the agreement with PBOT for sewer maintenance services." CBO has made progress on this effort but it would be great if CBO could make this a higher priority so their findings could be incorporated into the FY 2017-18 budget development process.

Next Steps

PWB

Possible new approach to Bull Run hydropower production:

As indicated in this spring's CBO analysis, there are two electrical powerhouses in the Bull Run watershed. The electricity sales agreement between PGE and the Portland Hydroelectric Project (PHP) will end in August of 2017. At that time the PHP debt will be retired and decisions will have to be made regarding program operation since PGE has indicated they are no longer interested in managing PHP. PGE may be interested in purchasing electricity though market uncertainties would likely affect future sales agreements and revenues for the City. Regardless of the operator and revenue level there are ongoing asset maintenance or replacement needs expected in five to ten years. At this point it seems likely that those costs may exceed future revenues.

If a business case cannot be made to continue hydropower production in the Bull Run, CUB could well support the possibility mentioned in the CBO report to decommission PHP assets. PHP staff may also have thoroughly explored a wide range of alternatives. There might be new options, however, linked to the recent passage of the Oregon Clean Electricity & Coal Transition Plan in SB 1547. That legislation increases the Renewable Portfolio Standard (RPS), extends the life of Renewable Energy Certificate (RECs), and encourages small-scale community-based renewable energy projects.

It isn't clear that a PHP business plan could be reconfigured to benefit from provisions in the new Clean Electricity & Coal Transition bill. CUB has discussed a tentative game plan with staff in Commissioner Fish's office for assessing options with the Energy Trust of Oregon, which has experience with small scale renewable energy projects, and others regarding Bull Run hydropower production.

BES

Updating Cost Allocation Studies:

Three important documents that influence BES financial allocations and planning are ten years old or more and should be updated. Of particular concern is reviewing new options for the allocation of costs for stormwater management projects since that field has changed significantly in the last fifteen years. Getting input on any financing innovations from other sewer and stormwater management utilities is suggested, particularly in regard to green infrastructure. It seems prudent to review the timeline for updating the Stormwater Cost Allocation Study in the context of the timing of work on the Stormwater System Plan since there may be helpful synergy between these two efforts. At the very least an updated Stormwater Cost Allocation Study seems necessary to ensure that appropriate financing planning tools are in place to ensure timely and effective implementation of projects that will result from the Stormwater System Plan.

Review of Clean River Rewards Sunset and other Financial Incentives:

In CUB's utility rate hearing testimony last year and in communications to BES and others including the PUB during this year's budget process, the need to plan ahead for the June 30, 2017 sunset of the Clean River Rewards program was highlighted. That work is still needed and the PUB has indicated an interest in reviewing this program as an upcoming agenda item.

An additional suggestion that has been communicated to the PUB, but I also wanted to mention to the City Council, is to review the Clean River Rewards program within a broader context of assessing other BES financial incentive efforts. Such a review would help identify priorities for discounts or other financial benefits. For example, CUB has prepared a suggested process for evaluating if and when financial benefits for on-site alternative wastewater systems are appropriate. In that document we suggest that stormwater related incentives are more important but this prioritization merits more

discussion. Even in the stormwater arena the role of targeted mandates rather than incentives should be discussed. For example, an ecoroof requirement in the Central City is under consideration which is an indication that in some situations not providing financial incentives is both feasible and fiscally prudent.

Review of the Clean River Rewards sunset should be reviewed from a variety of angles, but review through an equity lens is particularly important. This program provides a significant stormwater management discount if the landowner takes action to manage runoff from his/her private property. But only about 20 percent of single family customers participate in this program and though it is a significant benefit to them, reduced revenue from these customers is a factor in calculating rates for the system as a whole and raises fairness concerns.

PWB and BES – Two Approaches to Trying to Lower the Slope of Rate Increases

There are two approaches to judiciously assessing opportunities to lower the slope of rate increases, especially from the perspective of combined increases given that Portlanders get one bill for services provided by PWB and BES. The first approach is careful review of CIP planning, especially projects that are early entries or just about to enter into CIP budgets. Working backwards is another approach that is described below. These approaches are not mutually exclusive and both must be carried out with a keen awareness of meeting service level expectations and careful management of risk. Realistic expectations are also important since, as noted earlier, the overall trend of all utility rates is upward. So nobody should be thinking that futures rates are likely to go down.

Diligent Review of CIP Planning and First Year Entries in CIP Budgets

I highlighted in CUB's March 29th memo to the City Council our agreement with the CBO discussion in its PWB budget report about the importance of close scrutiny of CIP projects that appear in the first year of the five year plan since they will have long term impacts. CUB is taking this approach with both PWB and BES which is why we began asking question about the biogas utilization project a year ago and began raising concerns about the related organic waste receiving facility last fall. We greatly appreciate the assistance of both bureaus last fall in reviewing with CUB their lists of anticipated projects that would be new entries in the FY 2016-17 CIP budgets. We are also drilling down into CIP planning processes in both bureaus with an eye towards early identification of projects that would benefit from additional oversight.

This approach has both short and longer term applications. For example, the PWB's forecasted 10.7% rate increase in fiscal year 2019-20 illustrate how CIP decisions made in prior years affect rates for some time in the future. In that year anticipated capital project spending, particularly the Willamette River Crossing and Washington Park Reservoir projects, is quite significant and expenses related to the Portland Building Renovation also begin. Rate impacts that year are smoothed by use of the rate stabilization account which is appropriate and very important. Careful review, however, of possible project delays or savings opportunities that could even slightly mitigate the fiscal year 2019-20 projected rate hike needs to begin in advance of that year. This is an example of a short term application of this diligent review of CIP projects approach and CUB will also be taking this approach in reviewing both bureau's longer range CIP planning. I also want to note that CUB is also applying this approach to other aspects of BES and PWB activities, but more significant opportunities to save dollars are likely found in CIP budgets.

Working Backwards

Another approach is to pick a future year, say FY 2025-26, and work backwards to see how CIP planning as well as operations and maintenance spending in both bureaus would need to change if there was a request to lower the rates forecasted for that future year. This approach must begin with a thorough

understanding of the rate making process as well as the current forecasts and the forecasting procedures of both bureaus, including an understanding of why financial forecasting is particularly challenging for PWB. One key difference in this regard is that PWB is smaller than BES, but there are other reasons for future forecasts more frequently ending up being lower for PWB compared to BES and all that background is essential for responsible use of this working backwards approach. This is also a long term exercise since it will require significant time for PWB and BES to prepare information on what they wouldn't be able to do if a combined forecasted rate in FY 2015-16 is reduced by half a percent or some other requested number.

To begin evaluating the merit of doing a working backwards exercise let's take a look at current financial projections. BES projects a 3.25% rate increase for the next five years. The five-year rate forecast by PWB indicates an uptick from the FY 2016-17 rate increase of 7% over the next four fiscal years with a peak projected rate increase of 10.7% in FY 2019-20. This is summarized in the table below.

Actual (FY 2016-17) and Forecasted (FYs 2017-21) Rate Increase Percentages

	Actual (FY 2016-17) & Forecasted (FYs 2017-21) Rate Increase %s				
	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
BES – 2/3 of average bill	3.25%	3.25%	3.25%	3.25%	3.25%
PWB – 1/3 of average bill	7%	8.4%*	8.3%*	10.7%*	8.1%*
Combined Bill	4.45%	4.93%	4.95%	5.84%	5.02%

The compounded projected rate increase over the five fiscal years in the table above is 27.85% and the average annual rate increase projections for these five years is 5.04%. This indicates that continuing to meet the current guidance of keeping combined rate increases under 5% is still feasible, though more challenging in FY 2019-20.

The asterisks in the table 1 are included to highlight the role of the following seismic resiliency projects in PWB's forecasted rate increases over the next five years as outlined below.

*FY 2017-18 - 8.4%
Includes Willamette River Crossing - $12.45 million and Washington Park Reservoir - $31 million
*FY 2018-19 - 8.3%
Includes Willamette River Crossing - $39.7 million and Washington Park Reservoir - $50 million
*FY 2019-20 - 10.7%
Includes Washington Park Reservoir - $31 million and the beginning of Portland Building renovation expenses
*FY 2020-21 - 8.1%
Includes Washington Park Reservoir - $19 million

The table and the information provided above indicate that the real question is what BES and PWB can tell us about their financial projections for the following five years.

Forecasting even for five years is very challenging which is why asking BES and PWB for longer term forecasts requires a clear understanding of the forecasting and rate setting process if this working backwards approach is used. Initial indications, though, are that BES is continuing to project 3.25% rate increases for several years following 2021. For many good reasons there is less certainty about PWB rate

increase forecasts, but the downward trend seen in their FY 2020-21 projection seems likely to continue and then level off in the ballpark of their increase for the upcoming fiscal year.

CUB thanks PWB and BES staff for discussing with me these initial long term projections but I want to stress their preliminary nature. It is also critically important to understand that any of these projections could change significantly in the event of a natural disaster or major regulatory change. For example, PWB's financial projections would completely change if the City of Portland lost its *Cryptosporidium* exemption and was ordered by environmental and health regulators to build a new water treatment plant.

If more refined long term cost projections are close to these initial estimates and if both sets of rate increases begin to stabilize in FY 2021-22, a working backwards approach exercise could still be useful but isn't likely to be addressing as big a problem as some may think. It also bears repeating that such an exercise should be viewed as a long term project requiring significant BES and PWB staff time and is also a process that may be best done in conjunction with strategic plan updates that both bureaus are in different stages of getting underway.

187773

Agenda Item 529 TESTIMONY 2:00 PM TIME CERTAIN

FY 2016-17 WATER & RELATED SERVICES RATES/CHARGES

IF YOU WISH TO **SPEAK** TO CITY COUNCIL, **PRINT** YOUR **NAME, ADDRESS, AND EMAIL.**

NAME (print)	ADDRESS AND ZIP CODE	Email
✓ Dee White	3836 SE 49th Ave Portland OR 97206	deewhite1@mindspring.com
✓ Ron LANGFORD	12203 SE 19th Ave Milwaukie OR 97222	503-885-4244

Date 05-19-16

187773

Moore-Love, Karla

From: Dee White <deewhite1@mindspring.com>
Sent: Wednesday, May 18, 2016 12:53 PM
To: Moore-Love, Karla
Cc: Council Clerk – Testimony
Subject: Item 529 Testimony - Authorize Rate and charges for Water May 19, 2016 2:00 PM
Attachments: Agenda item 529 testimony Water Rates from Dee White.docx; Oregon Court of Appeals - Opening Brief.pdf

Dear Karla,

Please find attached the following docs that I would like to add as testimony for the public record for the water rate hearing:

1. Agenda Item 529 testimony Water Rates from Dee White (Revised 5/19)
2. Oregon Court of Appeals – Opening Brief

Please send me acknowledgement that you have received. I will see you tomorrow at the hearing.

Thank you,
Dee White

3836 SE 49th Ave.
Portland OR 97206

187773

Testimony for City Council Agenda Item 529 "Authorize rates and charges for water related services. Revised

From:
Dee White
3836 SE 49th Avenue
Portland, OR 97206

19 DW
May 18, 2016

Below please find comments on the requested budget for the Portland Water Bureau.

1. Base Charge on the Portland Water Bill

The base charge is going up 7%. There is no discussion why or what the base charge pays for anywhere in this 130 page document except on page 105 where the base charge is lumped in with Water Sales Revenue and on page 80 where one gets a small inkling of what the base charge is for: "The base charge (the fixed charge on the bill) for the monthly meter read customers will increase from $35.74 to $38.25 per month."

On the back of my bill from the water bureau the base charge is defined as "pays for the meter reading, billing, collection, and customer support. This is a daily fixed charge." The public is kept in the dark about this enormous base charge. Only by doing extensive research on the web can one figure out that the base charge is for fixed charges and according to David Shaff, former water bureau director, says "in water, costs for meter readers, inspectors, billing and maintenance crews aren't tied to consumption. About 95 percent of operating costs are fixed."

So in other words, the base charge is really for operating costs or 95% of the operating costs which, according to the budget document, the operating costs for 2016-17 are requested at $526 million, a 9.84 increase over last year.

Why is the base charge and its associated yearly increases not included in the rate increase document other than a mere mention? This is disingenuous and shameful.

THE BASE CHARGE SHOULD BE AUDITED AND ITS RESULTS PROVIDED TO THE RATEPAYERS. THE BASE CHARGE SHOULD ALSO BE PRESENTED AS PART OF THE RATE INCREASE IN A FASHION THAT THE RATEPAYER CAN EASILY IDENTIFY AND UNDERSTAND. Surely $500 million is not just for meter readers, inspectors, billing and maintenance crews. WHAT ELSE DOES THE BASE CHARGE COVER, WHY IS IT SO ABNORMALLY HIGH AND WHY DOES IT GO UP EVERY YEAR when water sales are continuing to decline?

2. Lab equipment ($130,000) so the water bureau can do in-house testing for cryptosporidium, plus two FTE with combined yearly salary of $231,000 to do the testing in –house. Page 62 The reason given by the Water Bureau is because of the anticipated reduction in labs that do cryptosporidium testing and that only a handful exist now. According to this budget document PWB has been shipping water samples from Bull Run, at least 10 liters PER WEEK, across the country to get tested for cryptosporidium. (page 62) Obviously, since the amount of labs is decreasing, the need for crypto testing (especially in our federally protected Bull Run watershed!) must be decreasing, meaning that crypto is not the horrendous current or future problem that the EPA originally stipulated - hence, the mandated rule is being reviewed as per an order from President Obama. The Grants Pass Water Lab (www.gpwaterlab.com), in Grants Pass, OR is currently the only Oregon state certified lab to do waterborne parasitic testing including cryptosporidium and giardia, yet PWB has been sending their self-concocted ridiculously high amount of testing samples across the country! Why not send the samples for testing to a depressed part of our beautiful state? Why do we need to continue with this insane mission creep and hire two more people with combined salaries of a whopping $231,000 per year and enhance the in-house lab with $130,000 worth of equipment when there is a State-certified lab in Southern Oregon, which is saddled with one of the highest unemployment rates in the State? And if they don't have capacity, why not entertain an intergovernmental grant or small business loan to help our neighbors instead of pulling the testing in-

house, never to be independently audited again! I find it brazen and unethical to be bringing this testing for crypto in-house. Portland Water Bureau is on an intrepid and wasteful mission to get the lab results they desire so yet another massive infrastructure project ($$$filtration plant at Bull Run$$$) can be handed to Joe Glicker and CH2MHill before the variance ends in 2022. We, the ratepayers, cannot be fooled. **This misdirected request should be CUT from the budget.**

3. Request for another $65 million more in funding for Capital improvement projects because of increased cost of WA Park reservoir demolition. On page 14 under the Changes from Prior Year is this statement: "The biggest change in the FY 2-016-2017 five-year request is related to the **need to mitigate geotechnical issues and provide adequate seismic resilience at Washington Park**." Translated this means: Dismantling and excavating the steep ravine that surrounds the open reservoirs, combined with blowing up the intact, secured reservoir basins could potentially trigger the ancient, currently stable landslide which will put the people of Portland at great risk; therefore we need another $65 million to mitigate this potential catastrophe.

At this point, we are looking at yet another boondoggle, like Powell Butte, in the middle of the City's crown jewel park. It's sheer lunacy. The Water Bureau knew it was going to cost way more than the original $62 million to blow up the reservoirs and mitigate for the catastrophe that is bound to happen once you remove these incredibly strong and well built structures. They are NOT failing, they are NOT in danger and they could be made beautiful and accessible again for a fraction of the cost which has now been revised to $170 million as per Oregonian article from 9-2015 (attached) . Three months after the much contested decision was made by Council to demolish, the Cornforth Geotechnical Report (which cost over $4 million), was released and resulted in the cost being doubled and two years added to the 4 year demolition schedule. The delayed release of this report was so obviously planned that the public was again, never fooled. If the report had been included in the findings, as it should have been, the decision would have been much harder to support because of the ridiculous price tag and the public safety risk from the "geotechnical issues". This stupid, dishonest decision to demolish is being challenged in the courts by citizens. Attached please find the opening brief

to the Court of Appeals, which was argued two days ago. There is no evidence that the current reservoirs are either in danger or are a danger to the public. The demolition itself will put the public at risk and the end result of a closed system will seriously threaten the public health of ratepayers and their families. Even the skeptical PUB stated on page 5,: "**While the bureau has engaged in significant research and planning to mitigate potential risks, those activities, as well as the evaluation of alternatives, cost increases to date and on-going project monitoring** need to be more clearly communicated to the public." (pg 5) **The Washington Park reservoir demolition project should be terminated now and our historic open reservoirs should be restored and refilled, which can be done at a fraction of the cost proposed for this future boondoggle.**

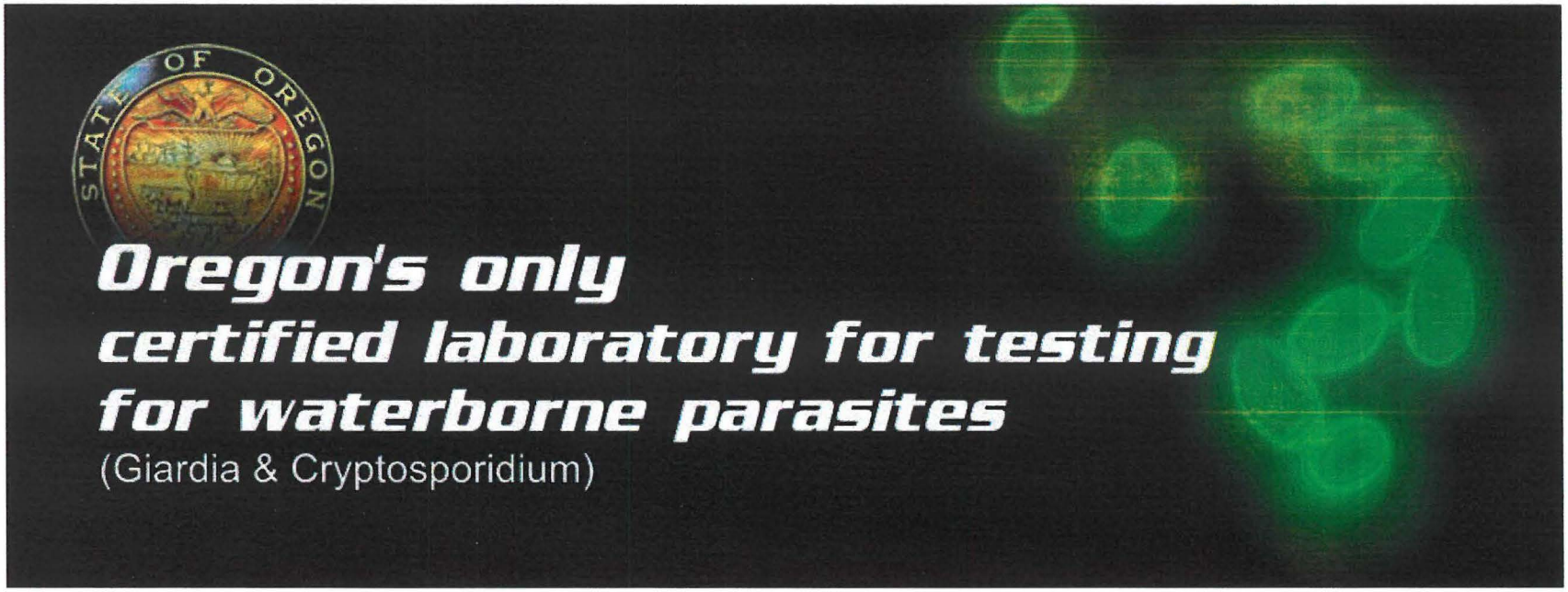
4. The Portland Water Bureau does not need to fold in 8.6 more Full Time Employees (FTE). (page 7). Water demand (sales) continues to decline. In a business environment, when sales decrease, decreased fixed costs have to result, otherwise the business fails. The rates continue to climb much more than inflation, the ratio of managers to employees is 1:3 and yet PWB "needs" more staff. This is mission creep at its worst.

5. The Portland Water Bureau, with the $610 million debt load it is currently carrying and a five year CIP request for another $474 million to add to this debt load, is surely headed for a financial fiasco. The ratepayers of Portland do not deserve to be strapped with more debt for unneeded, poorly conceived, ill-gotten infrastructure.

Sincerely,
Dee White
3836 SE 49th Ave.
Portland, OR

187773

Grants Pass Water Lab



Learn about Giardia & Cryptosporidium here (giardia-cryptosporidium.asp)

Portland's Washington Park reservoir proje could cost $170 million

By **Andrew Theen | The Oregonian/OregonLive**
Email the author | **Follow on Twitter**
on September 22, 2015 at 12:34 PM, updated September 23, 2015 at 3:30 PM

Portland's plan to build a new underground drinking water reservoir and reflecting pool **at Washington Park** will cost at least $100 million more and take two years longer than initially estimated.

The City Council on Tuesday heard an update on the project, which water officials say is necessary to comply with federal rules requiring the city to cover its open-air reservoirs or treat the water.

The new $170 million estimate is a result of unstable soil conditions in the park and concerns associated with a potential earthquake.

"The amount of work that has to be done to stabilize this is staggering," Commissioner Nick Fish said, describing the subterranean structure to keep the reservoir from shifting in an earthquake as a "fortress." Fish oversees both the water and sewer bureaus.

Officials acknowledged that the work will be the city's most expensive capital project after the $1.4 billion Big Pipe project, completed in 2011.

Portland water customers will see incremental rate increases of roughly 0.9 percent a year for the next five years to pay for the Washington Park project. By 2023, the reservoir project alone could contribu to residents' utility bills.

The revised cost estimate is the latest development in the Portland Water Bureau's construction boom connec mandate. Portland has already built a second 50 million-gallon **reservoir at Powell Butte** and **replaced Kelly I** with a new 25 million-gallon reservoir. The bureau plans to disconnect Mount Tabor's reservoirs from **service s**

Water engineers issued the new estimate after more analysis of Washington Park's geology. The city estimatec project would cost $62.3 million. The estimate rose to $76.3 million in 2013 after more study.

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Water Bureau Administrator Michael Stuhr also cautioned that the estimate could still increase.

Portland is replacing one reservoir with an underground, seismically sound structure. A second reservoir will b bioswale and overflow area.

The new estimate accounts for the unstable soil conditions, an "ancient landslide" in the West Hills and possibl nearby Portland Hills Fault and the more famous Cascadia Subduction Zone.

Because of soil conditions, the project timeline now includes a two-year pause starting in 2020 to allow soils t

Despite the sticker shock, Portland officials said the cost increase puts the Water Bureau only about $20 milli 2009 estimate of $403 million to comply with the federal rules. The city saved money on other projects throu management, low interest rates and other factors, Fish said.

"The amount of work that has to be done to stabilize this is staggering." -- Commissioner Nick Fish

"We think we can manage this with a very modest rate impact, "weighed against the fact that it's absolutely crucial to the sur system and to a ton of people that rely on that water."

The reservoir serves 360,000 people and provides the only stc Willamette River.

"It's critical that post-earthquake we be able to provide that wa

Water officials said there is no viable or cheaper alternative. They would have to find another 15-acre site at th Portland's gravity-powered system, then move a network of pipes.

And eliminating water storage on the west side is not an option, Stuhr said.

"The only things that you could do are all worse," he said.

The bureau is worried about more than the Cascadia Subduction Zone, Stuhr said. The Portland Hills Fault cou magnitude-6.0 earthquake, he said.

Eric Nagle of the Arlington Heights Neighborhood Association said most neighbors are happy with the project in 2023.

"It's everything in between – the noise, traffic, road closures," he said, that will disrupt the neighborhood.

Separately, the Water Bureau plans to move forward this fall with a long-budgeted plan to build a new pipeline Willamette River to deliver water to the west side.

The city has seven water lines crossing the river, on bridges or on the bottom of the river. "Making a bet on wh survive [an earthquake] is probably not a great thing," Stuhr said.

The Willamette River Crossing Project, estimated at $57 million, includes placing a 42-inch pipe 80 feet below rock.

187773

Fish said he plans to bring construction contracts for both projects to the City Council this fall.

-- Andrew Theen
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@cityhallwatch

OUTSTANDING DEBT RATINGS

	Date of Issue	Final Maturity	Amount Issued	Amount Outstanding 2/1/2016	Underlying Rating (M/SP)	Insured Rating (M/SP)	Credit Enhancement	Effective Rating (M/SP)	
Tax Supported General Obligation Bonds									
G.O. Emergency Facilities Bonds, 2008 Series A	12/03/08	6/1/2028	$15,360,000	$11,870,000	Aaa			Aaa	
G.O. Emergency Facilities Refunding Bonds, 2009 Series A	07/07/09	6/1/2019	$14,560,000	$6,210,000	Aaa			Aaa	
G.O. Parks Bonds, 2015 Series B (taxable)	07/30/15	6/15/2016	$2,000,000	$2,000,000	Aaa			Aaa	
G.O. Parks Bonds, 2015 Series C	07/30/15	6/15/2028	$23,850,000	$23,850,000	Aaa			Aaa	
G.O. Public Safety Bonds, 2011 Series A	05/19/11	6/1/2026	$25,835,000	$20,010,000	Aaa			Aaa	
G.O. Public Safety & Fire Refunding Bonds, 2014 Series A	03/27/14	6/15/2029	$29,795,000	$28,390,000	Aaa			Aaa	
G.O. Public Safety, 2015 Series A	06/02/15	6/15/2029	$17,145,000	$17,145,000	Aaa			Aaa	
Tax Anticipation Notes, Series 2013 (FPD&R)	08/06/15	6/28/2016	$24,370,000	$24,370,000	Mig 1				
Full Faith & Credit Obligations									
Limited Tax Revenue Bonds, 2001 Series B	02/13/01	6/1/2030	$18,058,888	$9,862,042	Aa1			Aa1	
Limited Tax Revenue Bonds, 2007 Series A	04/24/07	6/1/2016	$22,480,000	$740,000	Aa1	A3	NPFG	Aa1	
Limited Tax Revenue Bonds, 2007 Series B	08/02/07	6/1/2017	$16,860,000	$3,935,000	Aa1			Aa1	
Limited Tax Revenue Bonds, 2007 Series C	10/02/07	6/1/2028	$11,925,000	$8,775,000	Aa1	A3	NPFG	Aa1	
Limited Tax Revenue Refunding Bonds, 2008 Series A	06/24/08	4/1/2018	$17,725,000	$6,010,000	Aa1			Aa1	
Limited Tax Revenue Refunding Bonds, 2009 Series A	05/21/09	4/1/2024	$21,450,000	$13,990,000	Aa1			Aa1	
Limited Tax Revenue Bonds, 2009 Series B (CAD & EBSP)	12/17/09	6/1/2017	$17,610,000	$8,520,000	Aa1			Aa1	
Limited Tax Revenue Ref. Bonds, 2010 Series A (Ref 98B, 99B, 02A)	04/22/10	4/1/2020	$7,745,000	$2,760,000	Aa1			Aa1	
Limited Tax Revenue Bonds, 2011 Series A (Convention Ctr Expan.)	10/06/11	6/1/2030	$67,015,000	$65,920,000	Aa1			Aa1	(1)
Limited Tax Revenue Bonds, 2011 Series B (ECC)	12/15/11	6/1/2026	$5,445,000	$4,440,000	Aa1			Aa1	
Limited Tax Revenue Bonds, 2012 Series A (Jeld-Wen Field)	4/24/2012	6/1/2027	$12,000,000	$12,000,000	Aa1			Aa1	
Limited Tax Rev. & Ref. Bonds, 2012 Series B (PTF/City Hall/Comm Ref)	5/24/2012	6/1/2022	$21,865,000	$11,960,000	Aa1			Aa1	
Limited Tax Revenue Bonds, 2012 Series C (PMLRT)	9/20/2012	6/1/2022	$36,160,000	$32,795,000	Aa1			Aa1	
Limited Tax Revenue Bonds, 2014 Series A (Sellwood Bridge Project)	6/17/2014	6/1/1934	$44,215,000	$42,785,000	Aa1			Aa1	
Limited Tax Pension Obligation Revenue Bonds, 1999 Series C	11/10/99	6/1/2029	$150,848,346	$134,503,346	Aa1	(3)	NPFG	Aa1	(2)
Limited Tax Pension Obligation Revenue Bonds, 1999 Series D/E	11/10/99	6/1/2019	$150,000,000	$85,275,000	Aa1			Aa1	
Limited Tax Housing Revenue Bonds, 2005 Series A	04/18/05	4/1/2035	$10,480,000	$8,755,000	Aa1			Aa1	
Limited Tax Housing Revenue Bonds, 2005 Series B	04/18/05	4/1/2035	$1,260,000	$1,060,000	Aa1			Aa1	
Limited Tax Housing Revenue Bonds, 2005 Series D	06/21/05	6/1/2025	$6,975,000	$6,070,000	Aa1	Caa2	Ambac	Aa1	
Urban Renewal Bonds									
Downtown Waterfront Urban Renewal									
2008 Series A	04/22/08	6/15/2024	$50,165,000	$36,320,000	Aa3			Aa3	
2011 Series A	07/06/11	6/15/2020	$30,370,000	$22,300,000	Aa3			Aa3	
South Park Blocks Urban Renewal									
2008 Series A and B	07/16/08	6/15/2024	$66,600,000	$49,740,000	Aa3			Aa3	
Oregon Convention Center Urban Renewal									
2011 Series B	07/06/11	6/15/2020	$29,685,000	$21,730,000	Aa3			Aa3	
2012 Series A	05/17/12	6/15/2025	$69,760,000	$69,760,000	Aa3			Aa3	
River District Urban Renewal									
2012 Series A (Taxable)	08/02/12	6/15/2026	$24,250,000	$19,680,000	A1			A1	
2012 Series B (Tax-Exempt Governmental)	08/02/12	6/15/2032	$34,140,000	$31,850,000	A1			A1	
2012 Series C (Tax-Exempt Non-AMT Private Activity)	08/02/12	6/15/2031	$15,275,000	$15,275,000	A1			A1	
Interstate Corridor Urban Renewal									
2011 Series A & B	08/11/11	6/15/2031	$46,135,000	$39,615,000	A1			A1	
2015 Series A	03/17/15	6/15/2025	$17,155,000	$16,880,000	A1			A1	
Lents Urban Renewal									
2010 Series A and B	06/24/10	6/15/2030	$36,890,000	$30,845,000	A1			A1	
North Macadam Urban Renewal									
2010 Series A and B	09/23/10	6/15/2030	$64,925,000	$53,025,000	A1			A1	
Central Eastside Urban Renewal									
2011 Series A and B	03/31/11	6/15/2030	$29,690,000	$25,970,000	A1			A1	
Sewer Revenue Bonds									
First Lien Bonds									
2008 Series A	04/17/08	6/15/2033	$333,015,000	$252,720,000	Aa2/AA	(4)	AGM	Aa2/AA	(4)(6)
2014 Series A	08/14/14	10/1/2024	$86,165,000	$79,360,000	Aa2/AA			Aa2/AA	
2015 Series A	08/27/15	6/1/2031	$329,805,000	$329,805,000	Aa2/AA			Aa2/AA	
Second Lien Bonds									
2008 Series B	04/17/08	6/15/2033	$195,700,000	$185,800,000	Aa3/AA-	(5)	AGM	Aa3/AA	(5)(6)
2010 Series A	08/19/10	3/1/2035	$407,850,000	$351,570,000	Aa3/AA-			Aa3/AA-	
2013 Series A	04/03/03	6/1/2023	$88,370,000	$198,605,000	Aa3/AA-			Aa3/AA-	
2014 Series B	8/141/14	10/1/2039	$204,220,000	$199,760,000	Aa3/AA-			Aa3/AA-	
2015 Series B	08/27/15	6/1/2031	$63,300,000	$63,300,000	Aa3/AA-			Aa3/AA-	

OUTSTANDING DEBT RATINGS

	Date of Issue	Final Maturity	Amount Issued	Amount Outstanding 2/1/2016	Underlying Rating (M/SP)	Insured Rating (M/SP)	Credit Enhancement	Effective Rating (M/SP)	
Water Revenue Bonds									
First Lien Bonds									
2006 Series B Refunding	9/21/2006	10/1/2020	$44,000,000	$32,885,000	Aaa			Aaa	(6)
2008 Series A	08/07/08	11/1/2033	$79,680,000	$65,665,000	Aaa			Aaa	(6)
2010 Series A	02/11/10	5/1/2035	$73,440,000	$64,790,000	Aaa			Aaa	(6)
2011 Series A	03/22/11	5/1/2036	$82,835,000	$75,215,000	Aaa			Aaa	
2012 Series A	08/02/12	4/1/2037	$76,510,000	$69,895,000	Aaa			Aaa	
2014 Series A	12/16/14	5/1/2039	$84,975,000	$81,575,000	Aaa			Aaa	
Second Lien Bonds									
2013 Series A (Second Lien)	05/02/13	10/1/2037	$253,635,000	$220,670,000	Aa1			Aa1	
Assessment Bonds									
LTIB 2007 Series A	06/28/07	6/1/2027	$41,745,000	$20,660,000	Aa1	A3	NPFG	Aa1	
LTIB 2010 Series A	04/29/10	6/1/2030	$22,305,000	$12,695,000	Aa1			Aa1	
LTIB 2011 Series A	12/13/11	6/1/2032	$3,400,000	$1,965,000	Aa1			Aa1	
LTIB 2014 Series A	6/26/2014	6/1/2034	$7,385,000	$5,375,000	Aa1			Aa1	
Gas Tax Revenue Bonds									
2005 Series A	03/17/05	6/1/2016	$4,400,000	$495,000	Aa2	A2	AGM	Aa2	(6)
2011 Series A	11/22/2011	2/1/2023	$15,400,000	$10,615,000	Aa2			Aa2	
Hydroelectric Power Revenue Bonds									
Series 2006	04/05/06	10/1/2016	$21,370,000	$1,740,000	A3/BBB	NR	Ambac	A3/BBB	

(1) The Bonds refunded by this issue (2001 Series A) had a Term bond maturing on June 1, 2030 that was insured by NPFG. These refunding bonds are entirely uninsured.

(2) Term bonds maturing on June 1, 2022 are not insured All other bonds of this issue are insured by NPFG, which is currently rated A3 by Moody's. If an insured rating falls below the underlying rating the bonds carry the underlying rating.

(3) Bonds maturing on June 1, 2011 through June 1, 2015 are insured by NPFG, which are currently rated A3 by Moody's and AA- by Standard & Poor's. All other bonds are not insured. If an insured rating falls below the underlying rating, the bonds carry the underlying rating.

(4) Bonds maturing on June 15, 2009 through June 15, 2016 are insured by AGM, which are currently rated A2 by Moody's and AA by Standard & Poor's. All other bonds are not insured. If an insured rating falls below the underlying rating, the bonds carry the underlying rating.

(5) Bonds maturing on June 15, 2009 through June 15, 2023 are insured by AGM, which are currently rated A2 by Moody's and AA by Standard & Poor's. All other bonds are not insured. If an insured rating falls below the underlying rating, the bonds carry the underlying rating.

(6) On May 3, 2010 Moody's released their "Global Scale Ratings" for Oregon local governments resulting in an increase to the underlying rating of these bonds. According to Moody's, the rating changes do not reflect an improvement in credit quality or a change in their opinion, but rather meet's the market's desire to have "rating comparability between municipal and non-municipal sectors".

WATER

* $610 million water debt

187773

IN THE COURT OF APPEALS

FOR THE STATE OF OREGON

SCOTT FERNANDEZ, Petitioner, and JEFFREY E. BOLY and FLOY JONES, Intervenors-Petitioners below, v. CITY OF PORTLAND, Respondent.	)	Land Use Board of Appeals 2015051 Court of Appeals Case No. A161776

PETITIONER'S OPENING BRIEF AND EXCERPT OF RECORD

Appeal from the Decision of the Land Use Board of Appeals
Dated March 2, 2016
Opinion of Hon. Michael A. Holstun

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Of Attorneys for Respondent

April 2016

I. STATEMENT OF THE CASE

A. Nature of the Proceeding and Relief Sought by Petitioners.

Petitioner seeks judicial review of the "Final Opinion and Order" ("Order") of the Land Use Board of Appeals ("LUBA") in this case, dated March 2, 2016. LUBA's Order is included in the Excerpt of Record ("ER") and is also found at page 9-30 of the LUBA Record Transmittal. ("RT"). Petitioners refer to the original Record that was before LUBA as "Rec. ###").

Petitioner requests that this Court reverse and remand LUBA's Order as it pertains to the sole Assignment of Error raised by Petitioner before LUBA. LUBA's decision is not supported by substantial evidence in the record, or by the actual facts which were not available to Petitioner below before the City, of which this Court can take judicial notice.

B. Nature of Agency Order for Which Relief is Sought.

The Order under review is a final determination by LUBA affirming the land use decision of Respondent City of Portland to demolish two historic reservoirs and a related historic building in Washington Park in Portland, Oregon, as contained in the June 30, 2015 Order of the Portland City Council in its "Findings and Conclusions in the Type IV Demolition Review at 2403 SW Jefferson Street, LU 14-249689 DM." *See* RT-121-158.

Petitioners filed a timely Notice of Intent to Appeal to LUBA on July 20,

2015. RT-260-64. LUBA heard the merits of the case February 11, 2016, and issued its Final Opinion and Order on March 2, 2016. RT-9-30. LUBA's Order affirmed the City's decision approving the demolition of the Washington Park reservoirs.

C. Statutory Basis for Jurisdiction.

This Court has jurisdiction over LUBA's Order pursuant to ORS 197.850(1). LUBA's Order is a final order as defined in OAR 661-010-0070(1). Petitioner has standing before this Court because he appeared in the land use proceedings which lead to the Final Order for which review is sought, LU 14-249689 DM. *See* RT-152, 155, 156. *E.g.* Rec. 21-25; 48-51.

D. Effective Date of the Order.

LUBA's Order was issued on March 2, 2016. RT-9. Petitioner filed and served the Petition for Judicial Review on March 23, 2016. RT 1-5. Accordingly, the Petition for Judicial Review was timely filed pursuant to ORS 197.850(3)(a).

E. Questions Presented on Appeal

1. Where the City approved the demolition of two nearly century-and-a-quarter old landmarks, are LUBA and the municipal applicant/decision

maker allowed to rely in the say-so of municipal employees, and may this Court take judicial notice of fundamental, demonstrable factual errors underlying the decision to demolish these irreplaceable historical fixtures?

2. Where there are such demonstrable, objective errors—*i.e.*, not credibility or policy determinations from the evidence—that factually invalidate the reasons for approving demolition of these historic landmarks, should this Court remand the decision to LUBA and the City in turn for failure to meet the substantial evidence standard of review, and the criteria found in PCC 33.846.080?

F. Summary of the Arguments.

1. Although review is limited to the record, the record must be taken as a whole, and there must be factual support for the conclusions reached, not simply a number of conclusory statements or disprovable assumptions. This Court can take judicial notice of relevant historical photographs and documents to correct erroneous assumptions and reject unfounded conclusions, particularly where the errors are objectively provable and the judicially noticed facts are presented to correct erroneous factual assertions made in the record.

2. Where a municipality's land use decision is based on erroneous, disprovable assumptions and ungrounded conclusions, LUBA cannot affirm a municipality's land use decision on substantial evidence grounds.

G. Statement of Facts.

Even if there are hundreds of statements in the land use proceeding's record indicating that the sky is green, a municipality cannot base a land use decision on something that can be objectively disproven. Petitioner asserts that such is precisely the case here, and the decision to demolish the Washington Park Reservoirs in Portland, Oregon—if allowed to stand—would exceed even the bounds of Oregon's deferential land use review system. Remand is the correct outcome where the record is manifestly divorced from the facts on the ground.

In this case, the City's first and central assumption justifying demolition of the Washington Park reservoirs—that the reservoirs were not constructed properly and are thus physically inadequate and dangerous—is demonstrably incorrect. Second, the reservoirs are not endangered by a near-stabilized former landslide (not to mention the idea that destroying a village to save it make no sense). Third, there is no seismic justification to remove these now-disused, yet beautiful and still fully functional, Portland landmarks.

1. The History of the Reservoirs.

The Historic Review Commission report contains the following narrative concerning the Washington Park Reservoirs:

> The reservoirs were constructed during the City Beautiful movement, which arose in response to the industrialization of cities, and aimed to promote health and civic virtue through the creation of beautiful and inspiring works of architecture and planning. The character of the reservoirs and their accompanying structures, articulated in a Romanesque Revival style, nestled into natural ravines within the landscape embody these values.
>
> The reservoirs were designed by Ernest Leslie Ransome, featuring patented "concrete and twisted iron" poured concrete construction, with the twisted iron placed at 10-foot intervals in each direction, and the façades of the structures featuring decorative designs molded by wooden formwork and tooled and hammered to resemble rusticated stone. Ransome's design is notable in that it was one of the first uses of reinforced concrete for a major work in the United States, at a time when reinforced concrete was just beginning to be employed in construction projects. The ornamental wrought iron fences and lampposts were designed by Whidden and Lewis, and crafted by Johann H. Tuerck of Portland Art Metal Works.
>
> In January 2004, the Washington Park Reservoirs Historic District was listed in the National Register of Historic Places under Criteria A and C, as a locally significant resource.

Rec. 1330. These historic features are part and parcel of a vibrant, historically rooted community, and still may serve the purpose of providing an escape from the urban crush of the City as well as providing safe and clean water to Portlanders.

2. Construction of the Reservoirs.

Perhaps the largest point of contention over the factual record stems from the assumption that the reservoirs are made of minimally-reinforced

concrete. Petitioner can demonstrably that this is flatly incorrect. The City's assumption—and the evidence in the record, such as it is—apparently stems entirely from a bad newspaper account. The National Register of Historic Places registration form for the Portland reservoir system notes:

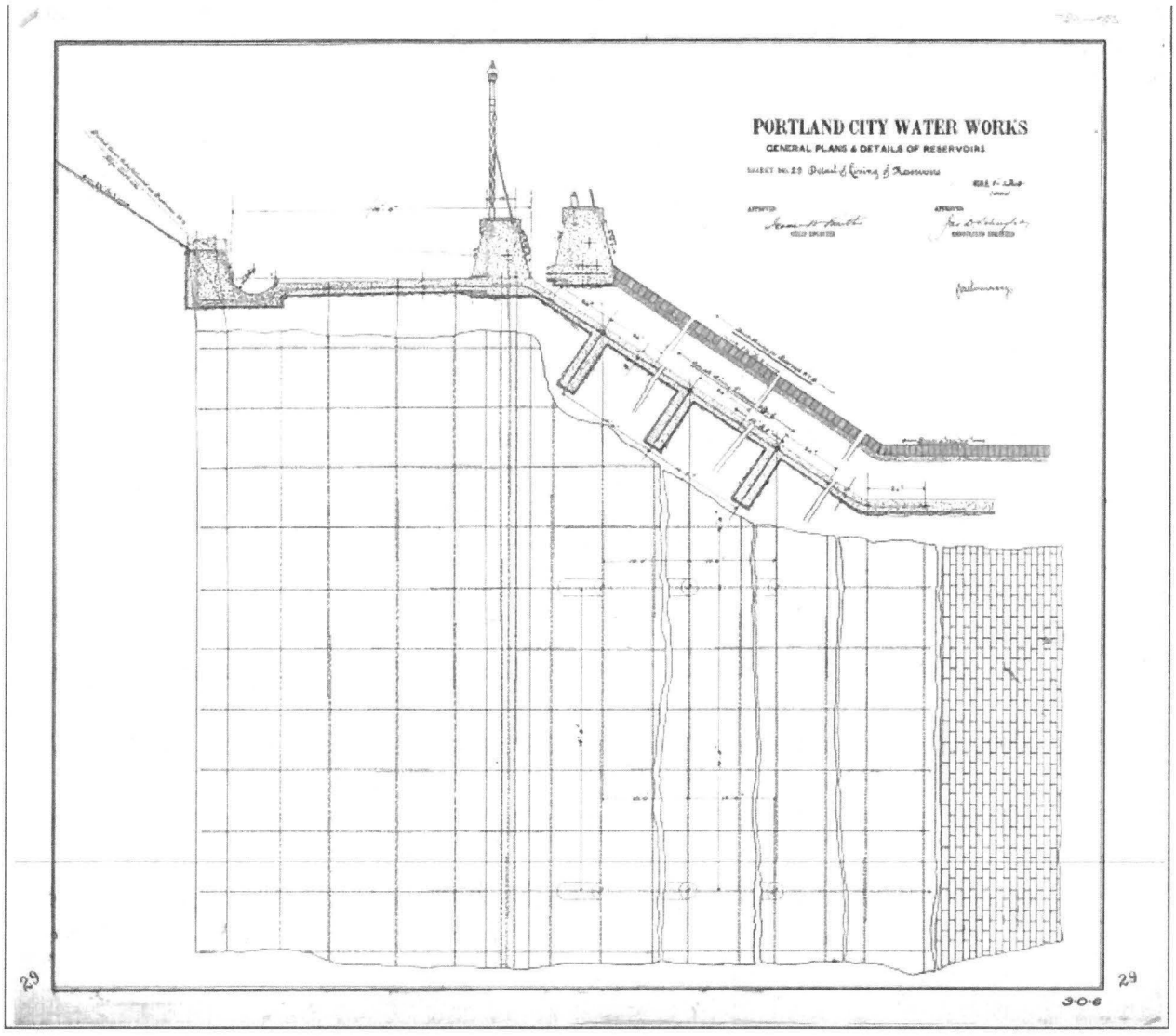
> All of the reservoir basins, with the exception of Reservoir 2, now demolished, were "lined with concrete strengthened with twisted iron ***placed at intervals of 10 feet in each direction***, and anchored at intervals of 10 feet by means of anchors driven to a depth of from 3 to 20 feet into the slopes forming the sides of the reservoirs and imbedded in concrete."

Rec. 1172 (quoting the *Oregonian*, January 1, 1895, p. 16-17) (emphasis added). This was merely a "reported" fact, not actually known to the City. *See* Rec. 290 ("The basin's concrete lining was ***reportedly*** reinforced with Ernest Leslie Ransome's patented 'twisted iron' square bars placed ten feet on center in each direction and anchored at ten-foot intervals by iron bars driven a depth of 3 to 20 feet into the slopes and embedded in concrete"). Yet as valuable as the *Oregonian* was and is as Portland's paper of record, this is not evidence of the actual structural integrity of the reservoirs.

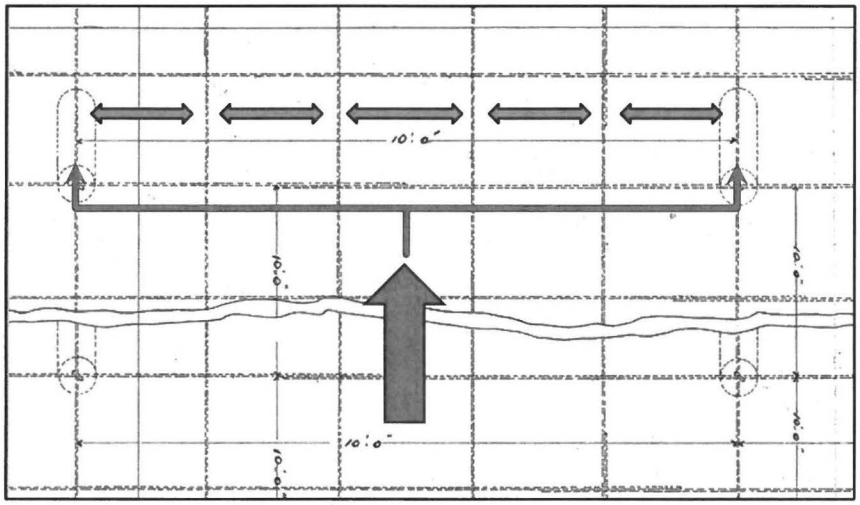
Unfortunately, this "10 foot" rebar interval figure was cited by the City in favor of demolition in its Findings and Conclusions, Rec. 18; 27, the Staff Report, Rec. 1330, and Water Bureau representative Dan Hogan at the Historic Preservation Committee meeting in April of 2015, Rec. 2132. The City relied on these figures for its analysis of actual risks, stating, "The thin and relatively

lightly reinforced section of the reservoirs are inadequate to resist [potential landslide] loads." Rec. 1871 (PWB Memorandum, April 30, 2015). *See* Rec. 970 (PWB Memorandum, April 9, 2015: "Although the 1894 reservoir design was highly advanced for its period, the reservoirs were not designed to withstand a major earthquake and certainly do not meet today's seismic codes. The reservoirs are likely to experience severe damage during a large seismic event and are not expected to be available for the City's recovery."). The problem is, the reservoirs were constructed in a much better fashion than indicated in the 1895 Oregonian or the National Register of Historic Places registration form.

After the record closed, Petitioner obtained an original construction schematic of the reservoirs, of which this Court can take judicial notice, as described *infra*. The complete construction schematic for the reservoirs is set out in Figure 1, below. A copy is also included as an attached high resolution .pdf in the Appendix to this brief. *Fig. 1* at APP-1.

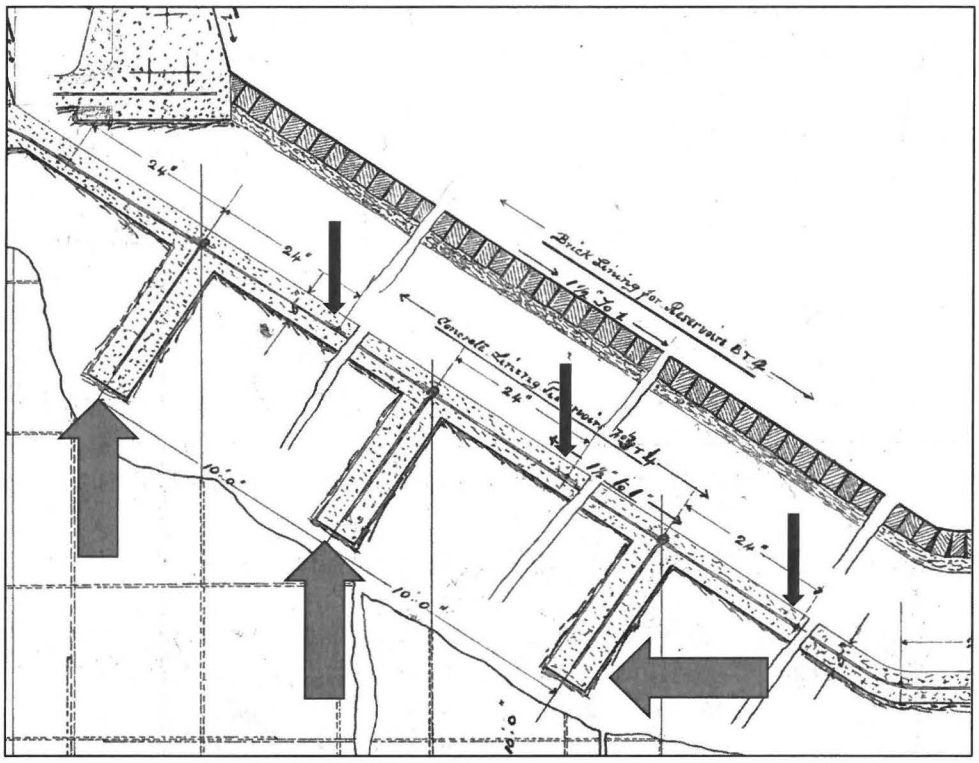


Petitioner draws the Court's attention first to the following detail view of the schematic, showing rebar placed not at ten feet intervals, but at about two feet, consistent with modern construction methods:



Detail of *Fig. 1*(arrows added). *See also* Rec. 2132 (Hogan testimony stating 16 in rebar intervals are current standard). The squiggly gaps indicate a foreshortened area, but the distances are still indicated clearly despite the foreshortening.

Second, the Court is directed to the cylindrical features in that detail above that are in fact located ten feet from one another. These are pilings—effectively "cleats"—of the reservoir, and are sunk into the ground, thereby anchoring the reservoir in place, as seen in this vertical cross-section, also on the same original schematic:

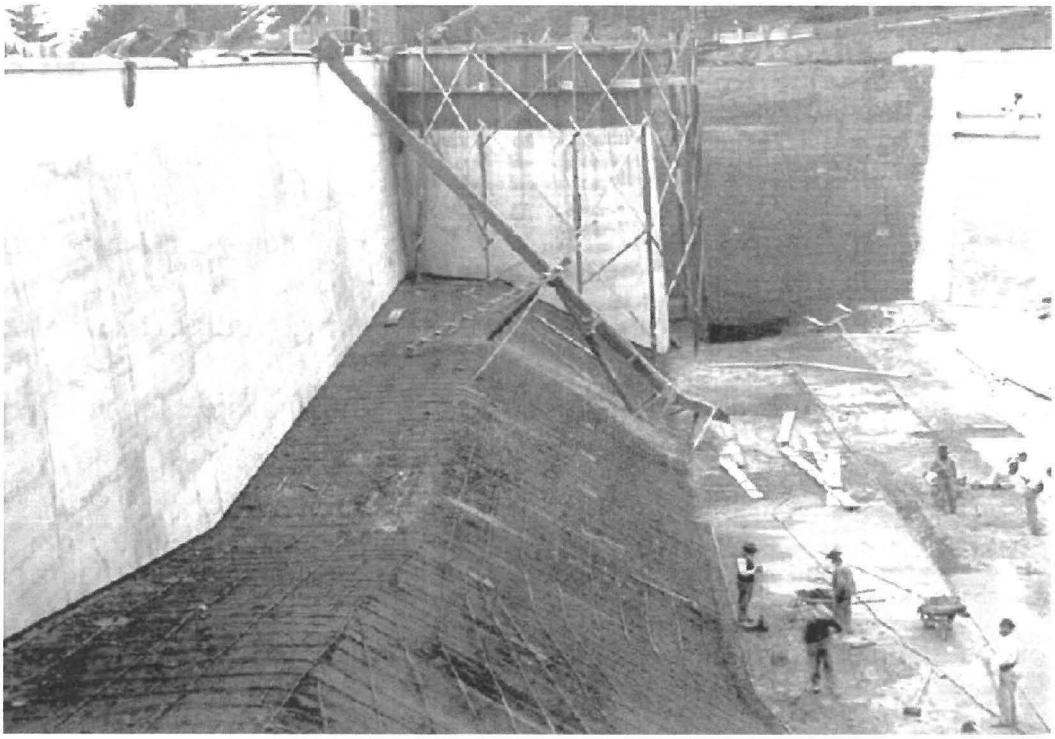


Detail of *Fig. 1*(arrows added). ***The pilings*** are the items that are separated by 10 feet on any side (noted in the *Oregonian*), but these pilings anchor the reservoir in the hillside, they are not the main structural steel in the reservoir design.

Rather, that role is filled by the 24 inch grid of metal bars that is laid out on the plans over and between these pilings. Note further the 24" indicators (black arrows) between the cleat and the dot along the rebar contained in the middle of the concrete. These two foot spacings echo the grid set out in the first detail image above, and in the schematic, these two detail images, together with the surface treatments and cross-section of the surrounding path, form

what essentially are all of the different planes of construction—the vertical and the horizontal—of the Washington Park reservoirs. The record to an extent does show a two foot grid in Ransome construction, *see* Rec. 2046 (showing grid plan of "typical floor"), but this design is nothing like that assumed by the City in the record.

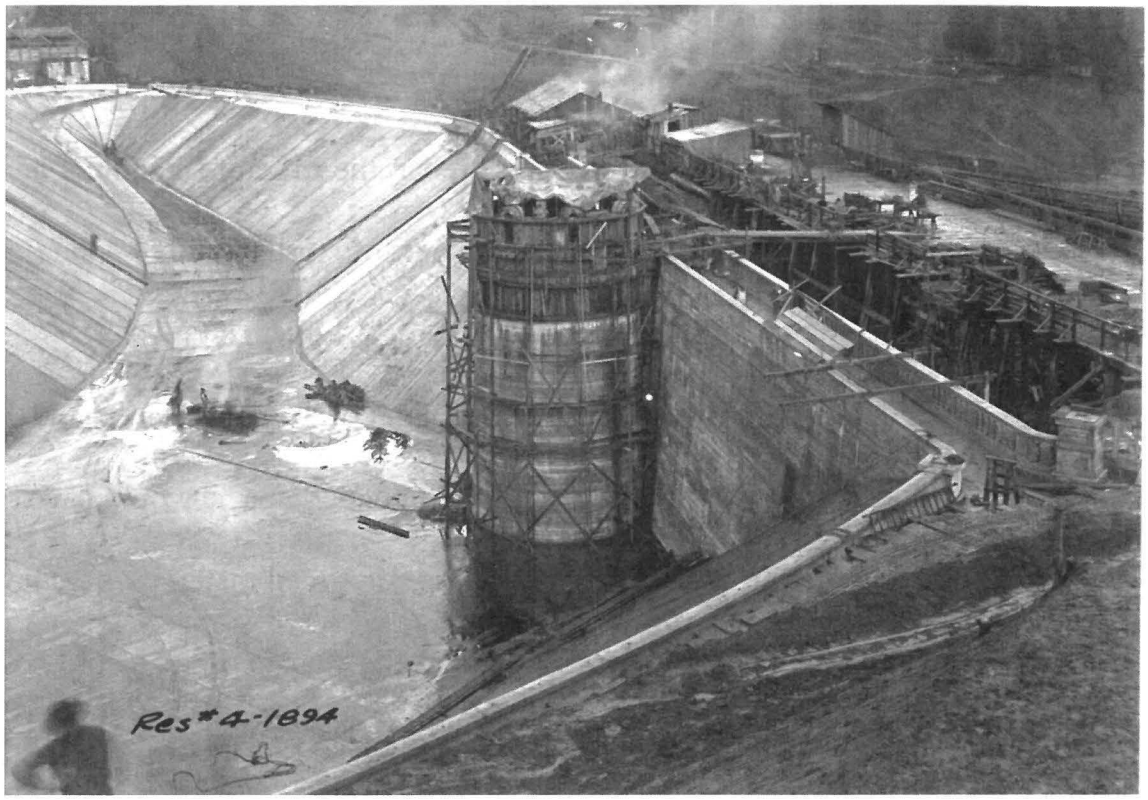
In fact, pardoning the pun, the concrete truth of the schematic is borne out in then-contemporary photos of the construction of the Portland reservoirs, with this one identified as Mt. Tabor reservoir number 1:



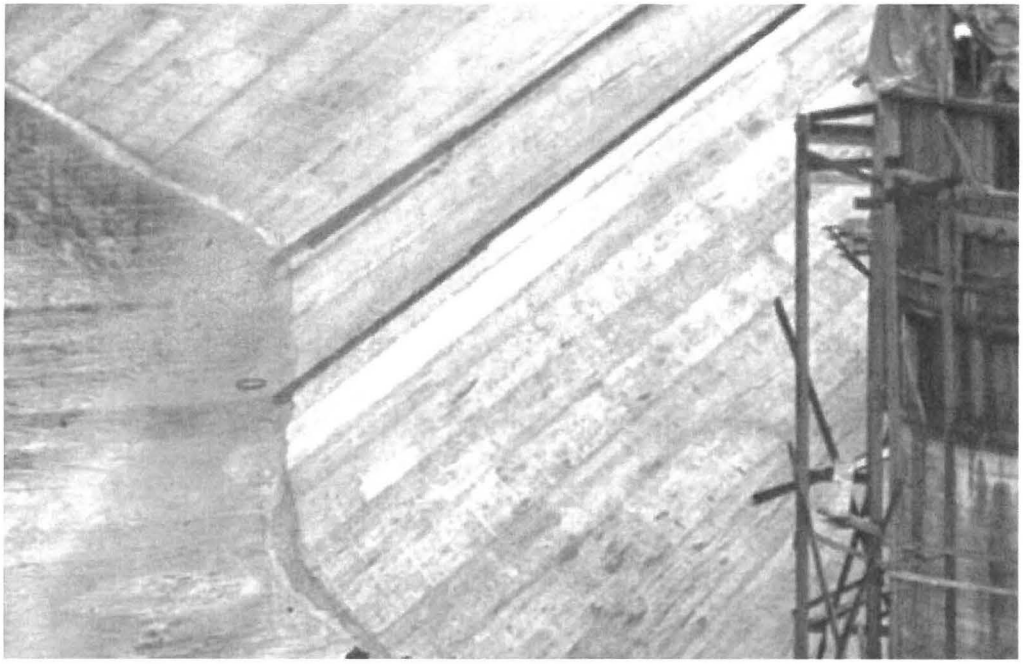
http://www.opb.org/artsandlife/series/historical-photo/oregon-historical-photo-mount-tabor-reservoir/ Pointedly, the City's record in this case indicates that Tabor, the first built, did not have substantial steel reinforcement, *see* Rec. 1871, but there it is in black and white. But if the City is correct and reservoirs

1, 3, and 4 all have the same strength characteristics, as indicated in the City's memo to the Council, then either reservoirs 3 and 4 (Washington Park) are made with a closely spaced grid of rebar, or the City's engineering numbers are completely unusable and unreliable. Or both. In any event, looking at the men to determine scale, it is clear that the rebar used for reinforcing the concrete is in the neighborhood of a two foot grid, as seen on the schematic, and certainly not a ten foot grid.

Another picture from the City website—this time unquestionably reservoir 4 (again no longer accessible there)—shows a similar closely spaced grid appearance after the initial coat of concrete:



The City website no longer has this picture available to link to, having apparently removed virtually all the links to historical reservoir photos as of the date of this brief. Still, a closer look at a detail image is telling:



Indeed, without the closely-spaced grid of rebar, the structure could not be built, as indicated by Petitioner in his comments of April 30, 2015—the final day of public commenting. Rec. 2047.

Had Petitioner known of the City's rebuttal of the construction and landslide information, also submitted on April 30, perhaps he would have been able to find and submit more evidence. These additional materials were not discovered or obtained by Petitioner until after the closing of the record before the City, and indeed only became fully relevant when LUBA rendered its opinion, as discussed in the Argument section, below. Historical resources

should not be demolished based on falsehoods. These materials are the best and only available source to place the real truth, not simply the "truth of the record," before this Court.

3. Lack of Demonstrated Landslide Danger in the Record.

The danger from an ancient landslide near the Washington Park reservoirs has been known since they were fist constructed, but that danger is virtually non-existent at this point. At the very least, it is inadequate to justify the demolition of the aesthetically pleasing and still-functional heritage found in the Washington Park reservoirs. The City Water Bureau, in a memo to the Council, devised this chart to show the movement of the landslide area:

TABLE 1

Date	Annual Rate of Movement	Total movement since 1895	Description of Events
1893 - 1894	Unknown	-	Reservoirs Constructed.
1895 – 1896	15 inches/year	30 inches	Water Bureau assessing cause of movement.
1897 – 1898	1½ inches/year	33 inches	Pump dewatering of exploratory shafts reduces movement rate.
1899 - 1900	4 inches/year	41 inches	Exploratory shafts completed; movement rates increase due to stoppage of dewatering pumps; survey grid installed.
1901 - 1904	¼ inch/year	42 inches	Drainage Tunnels constructed.
1904 - 1906	1-1/3 inches/year	45 inches	Movement increases; additional drainage tunnels are installed.
1906 - 1916	½ inch/year	50 inches	Detailed survey monitoring.
1916 - 1920	-	-	See note below.
1920 - 1970	½ inch/year	75 inches	Continued survey monitoring.
1970 – 1975	-	-	See note below.
1975 - 1986	¼ inch/year	77.5 inches	Measurements obtained from 2 Earth Deformation Recorder (EDR) casings.
1987 - 2010	0.14 inch/year	79.5 inches	Measurements from 7 inclinometers.
2011 – 2015	0.14 inch/year	80 inches	Measurements from 7 inclinometers.

Note: Measurements are not available between 1916 to 1920 and 1970 to 1975. Movement from

Rec. 1870. Over the last almost 40 years, the landslide area in question has

moved all of 2 ½ inches in actual distance, and at less than 1/8 an inch a year, and the slowdown has been consistent for that entire time. *See* Rec. 1920 (study of Washington Park landslide charting the gradual resumption of stability).

In actuality, there is no evidence in the record that the ***current*** facilities are being harmed ***now***, despite numerous conclusory statements to that effect. *See* Rec. 26 (one of the reasons for the demolition is "the presence of an active landslide that damages the existing reservoirs"). No studies or evidence show this continuing damage, though the record does show damage from the initial landslide. *See* Rec. 81. The only evidence in the record of current damage is the conclusory statement that, "The tunnel system was completed in 1905 and succeeded in slowing the landslide considerably. Since [1905], the ancient landslide has continued to move and damage both Reservoirs 3 and 4, and Pump House 1, requiring PWB to periodically make repairs." Rec. 82. No list of recent repairs or current damage attributable to ***current or recent land movement*** is listed anywhere. Given that nearly 90% of the land movement related to the reservoirs occurred prior to 1970—according to the City's own chart—the lack of demonstrable damage from contemporary land movement is telling here. The record as a whole on this point is, to put it charitably, underwhelming.

In fact, the rebuttal evidence from the City at the close of comment did

not even attempt to highlight specific damage. Instead, the City stated that:

> Of particular concern, it should be noted that while the landslide continues to move, portions of the reservoir move along with this slide movement while other portions outside of the slide do not move. This induces tremendous forces and load on the sections of the reservoir for which it was not designed to accommodate. The thin and relatively lightly reinforced section of the reservoirs are inadequate to resist these loads. For comparison, the following table compares the existing open reservoirs strengths in comparison to our newest code compliant reservoirs.

Rec. 1871 (Memorandum, April 30, 2015). This is the table that shows reservoirs 1, 3, and 4 all having the same strength, despite Mt. Tabor's reservoir 1 clearly having a 2-foot reinforcement grid, and the Washington Park reservoirs ostensibly having a 10-foot reinforcement grid:

TABLE 2 -- CONCRETE RESERVOIR WALL STRENGTH

					Steel Reinforcement		
	Allowable Compressive Force (lb)	Allowable Compressive Stress (psi)	Wall Thickness (in)	Wall Area (sq in)	Allowable Tensile Force (lb)	Yield Strength (psi)	Reinforcement Area (sq in)
Powell Butte 2	1,250,000	4,000	26	312	94,000	60,000	1.58
Kelly Butte	648,000	4,500	12	144	360,000	60,000	0.47
Reservoir No. 5,6	192,000	2,000	8	96	0	0	0
Reservoir No. 1,3,4	120,000	2,000	5	60	4,000	33,000	0.125

Rec. 1871 (Powell and Kelly Butte Reservoirs being covered). Therefore, as noted above, either the claim that the Washington Park reservoirs are inadequately reinforced is bunk, or the numbers on this chart are bunk. Indeed,

why not both! Simply put, there is no substantial support in the record for the notion that an eighth of an inch a year in shifting, in some places, is significant where the reservoirs comprise nearly 5 total acres combined. *See* Rec. 179-80 (size of reservoirs).

4. Lack of Seismic Risk in the Record.

Until the day the record closed, the City offered no proof of the susceptibility of the reservoirs to seismic damage, it simply restated the conclusion that such a risk existed, *ad nauseam*, without citation. For instance:

> 1-3.4 Seismic Susceptibility
>
> The original facilities were designed and constructed prior to current seismic standards and do not meet structural requirements for current anticipated seismic activity. Therefore, they are vulnerable to severe damage or failure during a significant seismic event. Failure of these reservoirs and structures could be catastrophic and result in loss of PWB's ability to provide drinking water to the west side of Portland including all of downtown. Therefore, the existing reservoirs need to be replaced with a new seismically resilient reservoir and associated critical water facilities require considerable upgrades to meet current seismic codes.

E.g. Rec. 83, 759. *Cf* Rec. 380, 714, 759, 1003, 1250. There was a note of the recurrence of earthquakes in the region, Rec. 931, but that is not evidence of anything going wrong with the reservoirs should an earthquake hit, not does it analyze the projected magnitude or the effect on any replacement facilities proposed. *See* Rec 1355 (Historic Landmarks Commission Dissent,

Commissioner Harris S. Matarazzo, discussing potential damage to replacement facilities). The City simply concluded that the existing reservoirs "remain a threat to the safety of downstream residents and businesses in the event of a major earthquake." Rec. 425.

Finally, on the last day the record was open, the City submitted a memorandum with a brief discussion of load stresses with respect to construction methods in the event of an earthquake, as discussed above, but provided no explanation of the actual risk posed to the specific Washington Park reservoirs by any presumed earthquake. Rec. 1870-72. Without showing any of the work going into such a broad statement, the City nevertheless concluded, "with reference to the above Table 2, it can be seen that normal current code requirements for strengths of reservoirs absent landslide loads are orders of magnitude greater that the current open reservoirs." Rec. 1872. *See also* Rec. 970 ("The reservoirs are likely to experience severe damage during a large seismic event … If the reservoirs were to remain open and filled with water, an earthquake could trigger a major slide that would cause severe damage to the reservoirs and potentially to downstream homes and businesses"). That is not evidence, it is sheer speculation. The cherry on top of this sundae of guesswork is the City's admission that "The anticipated movements for the existing reservoirs was not analyzed." Rec. 1873.

Furthermore, these purported risks cannot be valid reasons for any land

use action in light of three factors discussed above: (1) the City's incorrect assertion about the nature of the construction methods used in the Washington Park Reservoirs; (2) the City's misunderstanding of current landslide danger; and (3), the uselessness of the City's engineering numbers on load stresses and wall strength (given that the City purports to assign the same strength to entirely different modes of construction). Such internally inconsistent and conclusory materials—the only evidence favorable to the City that is actually in the record—when viewed as a whole, cannot support the notion that there is any substantial seismic risk posed by or to the reservoirs.

II. ARGUMENT

A. ASSIGNMENT OF ERROR: LUBA's Decision is Not Supported by Substantial Evidence in the Whole Record Where, as Here, It Approved the City's Decision to Demolish Historic Resources is Founded on Demonstrably Incorrect or Unsubstantiated Evidence.

1. Standard of Review.

This assignment of error is governed by the substantial evidence standard of review:

> A factual finding is supported by substantial evidence when the record, viewed as a whole, permits a reasonable person to make the finding. *Younger v. City of Portland*, 305 Or 346, 360, 752 P2d 262 (1988). Stated differently,
>
> > "'the substantiality of supporting evidence [is evaluated] by considering ***all*** the evidence in the record.' *Younger*[, 305 Or at 356]. (Emphasis

> added.) That is, the court must evaluate evidence against the finding as well as evidence supporting it to determine whether substantial evidence exists to support that finding. If a finding is reasonable in light of countervailing as well as supporting evidence, the finding is supported by substantial evidence. *See Armstrong v. Asten-Hill Co.*, 90 Or App 200, 206, 752 P2d 312 (1988)."
>
> *Garcia v. Boise Cascade Corp.*, 309 Or 292, 295, 787 P2d 884 (1990).

Barkers Five, LLC v. Land Conservation & Dev. Comm'n, 261 Or App 259, 347, 323 P3d 368 (2014). This Court's review of LUBA's decision "is not equivalent to *de novo* review." *1000 Friends of Or. v. Marion County.*, 116 Or App 584, 587-88, 842 P.2d 441 (1992).

2. Preservation of Error.

Petitioners and others raised the issues set forth in this assignment of error in the local proceeding. *See* RT-152, 155, 156. *E.g.* Rec. 21-25; 48-51, 562-64, 956-958. The issue was preserved at LUBA via the Assignment of Error, specifically the fourth sub-assignment of error. RT 99-119.

3. Argument.

Where the land use applicant is also the decisionmaker, approval cannot reasonably be based on the say-so of employees and agents of the applicant without some objective proof, or at least application of existing facts to the

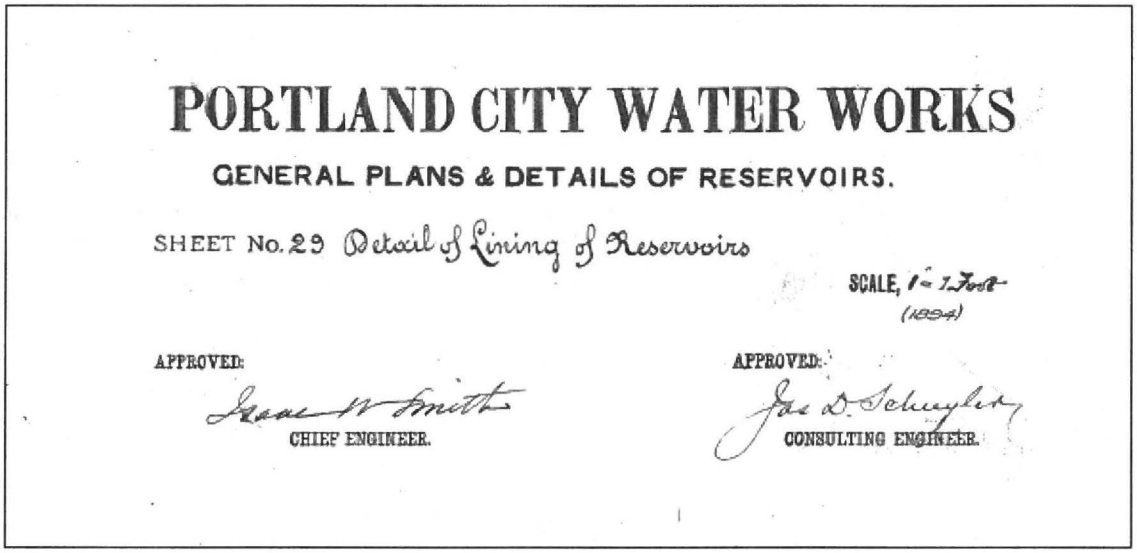
issue at hand. Here, LUBA accepted statements of City employees as providing substantial evidence of the factors on which the City based its demolition approval for the Washington Park reservoirs without actual evidence in the record. However, when one looks at the record as a whole, especially in light of judicially noticeable evidence that ***disproves*** those statements, such "evidence" cannot substantially support the decision. In this case, LUBA erred in affirming the decision of applicant and Respondent City of Portland approving the demolition of the Washington Park Reservoirs.

a. This Court May Judicially Notice the Facts Set Out by Petitioner.

This Court would be poorly served indeed if it was forced to approve a decision founded on unintentional (or even deliberate) falsehoods propagated for convenience . Where a record on a land use matter contained only such incorrect information—with potentially refuting evidence being held exclusively by the applicant, who was also the decision maker, and who only needed to build a plausible record to succeed—there can be no just reason to restrict the review to a record that is demonstrably flawed. Fortunately, in this instance at least, the Oregon Evidence Code allows the Court to consider material outside the four corners of the record here.

This Court may take judicial notice of matters outside the record in

review of a LUBA decision. *Foland v. Jackson Cty.*, 101 Or App 632, 639, 792 P2d 1228 (1990); OEC 201. Under OEC 201(f) the court may take judicial notice at any time, including on appeal. *Webb v. Clatsop County School Dist.*, 188 Or 324, 336, 215 P2d 368 (1950). Per the Code, the Court "shall take judicial notice if requested by a party and supplied with the necessary information." OEC 201(d). Petitioner has requested this Court take judicial notice of the documents set out above, namely pictures and schematics from the construction of the Washington Park reservoirs. This Court may thus take "judicial notice of facts that are not subject to reasonable dispute because they are capable of accurate verification." *State v. Wagner*, 63 Or App 204, 206, 662 P2d 799 (1983). In this case, the schematic and the pictures are subject to ready verification. The pictures of the construction of the Washington Park reservoirs are verifiable by any reference to the layout of the retention pools themselves, whether in person or on the internet. *O'Toole v. Northrop Grumman Corp.*, 499 F.3d 1218, 1225 (10th Cir. 2007) ("It is not uncommon for courts to take judicial notice of factual information found on the world wide web."). The schematic is judicially noticeable by virtue of its status as a City document, signed by City agents:



PORTLAND CITY WATER WORKS

GENERAL PLANS & DETAILS OF RESERVOIRS.

SHEET No. 29 Detail of Lining of Reservoirs

SCALE, 1" = 1 Foot
(1894)

APPROVED:
Isaac M. Smith
CHIEF ENGINEER.

APPROVED:
Jas D. Schuyler
CONSULTING ENGINEER.

APP-1. *See United States ex rel. Dingle v. BioPort Corp.*, 270 F. Supp. 2d 968, 972 (W.D. Mich. 2003) ("Public records and government documents are generally considered not to be subject to reasonable dispute"). So stated, there is nothing offered by Plaintiff that is outside the realm of being reviewed and accepted by this Court. *See Paralyzed Veterans of Am. v. McPherson*, No. C 06-4670 SBA, 2008 U.S. Dist. LEXIS 69542, at *17 (N.D. Cal. Sep. 8, 2008) (and cases cited therein).

On a more practical level, there are significant prudential reasons for noticing this evidence as well, including by not limited to the fact that the bases for the City's grant to itself of its demolition permit are patently wrong, and LUBA had no recourse but to rely on the City's representations. So too, the record is plainly inadequate in that no one bothered to go out into the currently

empty reservoirs with a metal detector, or worse, dig up a portion to confirm the structural integrity of the reservoirs—**the** key fact in this entire matter! This Court is not required to turn a blind eye to the truth, no matter what the standard of review is for LUBA decisions. The Court has the right to review the true facts of a case, as long as they may be unquestionably ascertained, as is the case with these photographs and the schematic.

b. The Record as a Whole Shows a Failure to Properly Apply a Substantial Evidence Review.

The above discussion of the facts shows that there is no substantial basis for concluding that the reservoirs either ae in adnger or a danger to the community as they sit. The only justification in the record for demolishing them is because of that danger. If the only factor in play was the EPA LT-2 rule, the City would not be justified in demolishing the existing reservoirs as a matter of simple logic, because they are currently unused now and pose no threat of contamination. E.g. Rec. 728 ("Reservoir 4 is typically empty and is no longer needed to serve the industrial corridor"). Without the landslide or seismic dangers, the need to demolish the reservoirs vanishes. At a minimum, such a drastic step as demolition is no longer warranted.

"[W]here LUBA properly articulates its substantial-evidence standard of review under ORS 197.835(9)(a)(C), [this Court] will not reverse its

determination unless there is no evidence to support the finding or if the evidence in the case is so at odds with LUBA's evaluation that a reviewing court could infer that LUBA had misunderstood or misapplied its scope of review." *S. St. Helens, LLC v. City of St. Helens*, 271 Or App 680, 681-82, 352 P3d 746 (2015) (citation and internal quotation marks omitted). Given the fundamentally flawed nature of the factual support in this case, LUBA can be inferred to have "misunderstood or misapplied its scope of review" here.

Under the Portland Code, "[p]roposals to demolish a historic resource will be approved if the review body finds that … [d]emolition of the resource has been evaluated against and, on balance, has been found supportive of the goals and policies of the Comprehensive Plan, and any relevant area plans." This review evaluates:

> a. The merits of demolition;
>
> b. The merits of development that could replace the demolished resource, either as specifically proposed for the site or as allowed under the existing zoning;
>
> c. The effect demolition of the resources would have on the area's desired character;
>
> d. The effect that redevelopment on the site would have on the area's desired character;
>
> e. The merits of preserving the resource, taking into consideration the purposes described in Subsection A; and
>
> f. Any proposed mitigation for the demolition.

PCC 33.846.080(C)(2). While this is a deferential standard, LUBA noted that the reasons given for approving the demolition were primarily twofold:

> First, federal drinking water regulations now require that domestic water supply reservoirs be covered or that the water be treated at the point of use. Second, the now active landslide poses a threat to the reservoirs and downgrade properties, particularly when dangers from potential seismic events are factored in. Removing the existing reservoirs and replacing them with the new underground reservoir and improvements designed to stabilize the landslide addresses both of those concerns.

LUBA Opinion at 8, ER-8. Since neither of these concerns are grounded in substantial evidence, as this Court can evaluate on its own, the lack of a proper foundation is manifest.

This Court should remand the case to LUBA for further remand to the City. Upon that remand, should the City wish to support its decision with facts applicable to the Washington Park reservoirs, it may then proceed with approving their demolition. Until then, the decision lacks substantial evidence on the record and cannot be sustained.

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III. CONCLUSION

For the foregoing reasons, this Court should take judicial notice of the facts offered by Petitioner, and reverse and remand the decision of LUBA in this matter.

RESPECTFULLY SUBMITTED this 13th day of April, 2016.

ROGGENDORF LAW LLC

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Of Attorneys for Petitioner

CERTIFICATE OF COMPLIANCE WITH BRIEF LENGTH AND TYPE SIZE REQUIREMENTS

BRIEF LENGTH

I certify that this brief complies with the word-count limitation in ORAP 5.05(2)(b)(ii) and that the word count of this brief as described in ORAP 5.05(2)(a) is 4,907 words.

TYPE SIZE

I certify that the size of the type in this brief is not smaller than 14 point Times New Roman, for both the text of the brief and footnotes as required by ORAP 5.05(4)(f).

DATED this this 13th day of April, 2016.

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Of Attorneys for Petitioner

CERTIFICATE OF FILING AND SERVICE

I certify that on April 13, 2016, I filed **Opening Brief, Appendix, and Excerpt of Record** by electronic filing with the State Court Administrator at this address:

https://appellate-efile.ojd.state.or.us/filing/

I also certify that on April 13, 2016, I served the following counsel listed on the Court's service list through the electronic filing system:

Kathryn S Beaumont
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DATED this 13th day of April, 2016.

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Appendix

187773

PORTLAND CITY WATER WORKS

GENERAL PLANS & DETAILS OF RESERVOIRS.

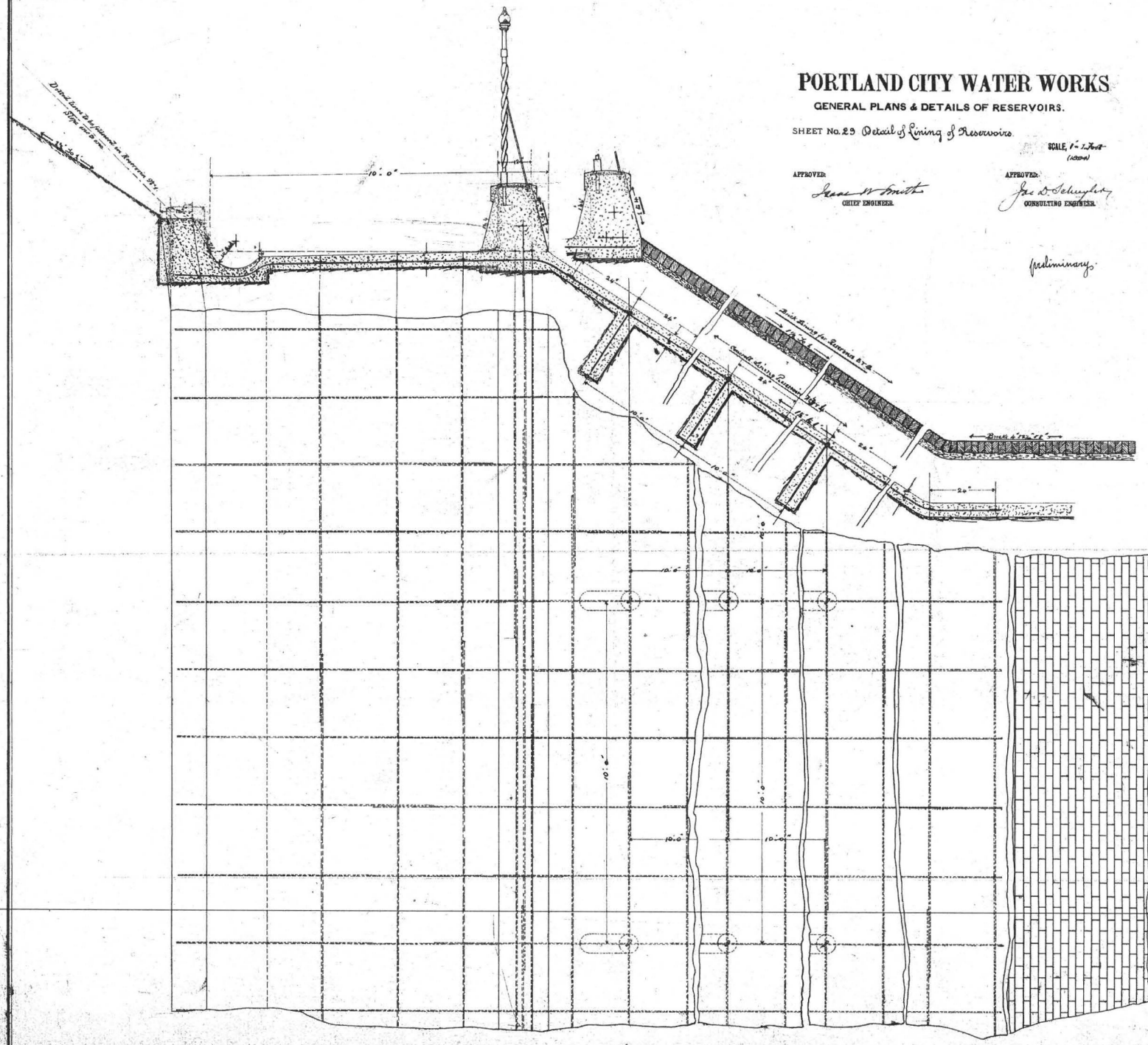
SHEET No. 29 Detail of Lining of Reservoirs.

SCALE, 1" = 1 Foot (1:12)

APPROVED: Isaac N. Smith CHIEF ENGINEER.

APPROVED: Jas. D. Schuyler CONSULTING ENGINEER.

preliminary.



29

3-0-6

29

Excerpt of Record

BEFORE THE LAND USE BOARD OF APPEALS

OF THE STATE OF OREGON

SCOTT FERNANDEZ,
Petitioner,

and

JEFFREY E. BOLY and FLOY JONES,
Intervenors-Petitioners,

vs.

CITY OF PORTLAND,
Respondent.

LUBA No. 2015-051

FINAL OPINION
AND ORDER

Appeal from City of Portland.

Ty K. Wyman, Portland, filed the petition for review and argued on behalf of petitioner. With him on the brief was Dunn Carney Allen Higgins & Tongue LLP and Michael E. Rose and Creighton & Rose PC.

Kathryn S. Beaumont, Chief Deputy City Attorney, Portland, filed the response brief and argued on behalf of respondent.

HOLSTUN, Board Member; BASSHAM, Board Chair; RYAN, Board Member, participated in the decision.

AFFIRMED 03/02/2016

You are entitled to judicial review of this Order. Judicial review is governed by the provisions of ORS 197.850.

Opinion by Holstun.

NATURE OF THE DECISION

Petitioner appeals a city council (Council) decision granting demolition review approval to remove two historic reservoirs and a related historic building.

FACTS

The historic reservoirs that are the subject of this appeal (Reservoirs 3 and 4) were constructed in the latter part of the nineteenth century, during the "City Beautiful" movement, and became operational in 1896.[1] The reservoirs and a number of other related structures are examples of Romanesque architecture and, when constructed, were readily accessible by the public. The reservoirs are located in Washington Park, located west of downtown Portland between the Kings Hill and Arlington Heights neighborhoods. There is no question that the reservoirs are a significant city historic resource.[2] The reservoirs and a number of other related buildings were included in the

---

[1] The related historic building, the Weir Building, was constructed in 1946. The city's other open reservoirs, Reservoirs 1, 5 and 6, are located at Mt. Tabor and are not at issue in this appeal. A sixth Mt. Tabor reservoir, Reservoir 2, has been removed. Record 2025.

[2] The challenged decision states "[i]t is without question that the Washington Park Reservoirs are among the City of Portland's most significant historic resources." Record 42.

Washington Park Reservoirs Historic District, which was listed as a locally significant resource in the National Register of Historic Places in 2004.[3]

When Reservoir 4 was constructed, the toe of an ancient landslide was excavated, activating that landslide. As a result the reservoirs have required continual maintenance and repair from the time they were first constructed. The landslide-related problems, with resulting concerns about dangers to the reservoirs and adjoining downgrade properties, have resulted in the reservoirs being drained or only partially filled in recent years. The reservoirs have been closed to public access for many years "for security, liability and water quality reasons." Record 452.

Once the reservoirs and Weir Building are removed, the city plans to construct a number of improvements in their place. In the area now occupied by Reservoir 3, the city plans to construct a below-ground reservoir, with a tiered reflecting pool on top of the underground reservoir in approximately the same footprint now occupied by Reservoir 3. A reflecting pool and stormwater swale are to be constructed in approximately the same location as Reservoir 4, but with a reduced footprint. Record 433, 455, 999, 1015-17 (reproduced in color in the Amended Respondent's Brief's Appendix). We understand the

---

[3] Like the reservoirs, the Weir Building is listed among the contributing historic resources for the Washington Park Reservoirs Historic District. However, the Weir Building is only referred to in passing in the challenged decision and the parties' briefs. Like the parties, our focus in this decision is on the historic reservoirs.

reflecting pools to represent an attempt to preserve some of the aesthetic qualities of the existing reservoirs.

The underground reservoir will be located outside the existing landslide footprint, which will allow construction of a number of measures to attempt to stabilize the landslide. As mitigation for the loss of the reservoirs and Weir Building, the city is proposing a number of improvements to the other contributing historical structures in the Washington Park Reservoirs Historic District that are to remain.[4]

---

[4] The findings include the following description of the proposed mitigation:

> "* * * The proposed restoration activities include the following: rehabilitation of Dam 3, including repair and reconstruction (as needed) of the parapet wall and balustrade, and removal of unnecessary piping and equipment; rehabilitation of Dam 4, including repair and reconstruction (as needed) of the parapet wall and balustrade, and removal of unnecessary piping and equipment; restoration of windows to Pump House 1, affording interior views to 'Thumper' (the historic water pump inside); structural upgrade, roof replacement, replacement of non-historic metal doors with more appropriate doors, and removal of unnecessary equipment to Gatehouse 3; replacement of non-historic metal doors with more appropriate doors and removal of unnecessary equipment to Gatehouse 4; cleaning of the Generator Building and all other buildings and structures to remain; plus patching of holes, and crack and spall repair on all contributing buildings and structures to remain. In addition, retention and rehabilitation of the historic fencing along Dams 3 and 4 and along the east and south edges of Reservoir 4, rehabilitation of the historic light post ironwork, renovation of 3 decorative concrete urns, and removal of non-historic incompatible lighting and introduction of new visually unobtrusive lighting is also proposed. While Reservoirs 3 and 4

INTRODUCTION

The city's Historic Resources Reviews are described at Portland City Code (PCC) 33.846. One of the types of Historic Resources Review is Demolition Review. PCC 33.846.080. The purpose of Demolition Review is set out at PCC 33.846.080(A).[5] There are two approval criteria for Demolition Review set out at PCC 33.846.080(C)(1) and (2), and an applicant for Demolition Review must comply with one of them. In this case, the city applied the criterion at PCC 33.846.080(C)(2), which is set out below:

> "Demolition of the resource has been evaluated against and, on balance, has been found supportive of the goals and policies of the Comprehensive Plan, and any relevant area plans. The evaluation may consider factors such as:
>
> "a. The merits of demolition;

---

and the Weir Building are proposed for demolition, the remaining historic resources will be rehabilitated and incorporated into the new design." Record 42-43.

[5] PCC 33.846.080(A) provides:

> "Purpose. Demolition review protects resources that have been individually listed in the National Register of Historic Places or are identified as contributing to the historic significance of a Historic District or a Conservation District. It also protects Historic Landmarks and Conservation Landmarks that have taken advantage of an incentive for historic preservation and historic resources that have a preservation agreement. Demolition review recognizes that historic resources are irreplaceable assets that preserve our heritage, beautify the city, enhance civic identity, and promote economic vitality."

"b. The merits of development that could replace the demolished resource, either as specifically proposed for the site or as allowed under the existing zoning;

"c. The effect demolition of the resources would have on the area's desired character;

"d. The effect that redevelopment on the site would have on the area's desired character;

"e. The merits of preserving the resource, taking into consideration the purposes described in Subsection A; and

"f. Any proposed mitigation for the demolition."

To summarize, under PCC 33.846.080(C)(2), the city must find the proposed demolition is, "on balance," "supportive of the goals and policies of the Comprehensive Plan, and any relevant area plans." The six, nonexclusive factors that are listed "may" be considered and essentially call for an assessment of what will be lost by demolition and what will be gained through redevelopment and mitigation. It is worth noting at the outset that, because PCC 33.846.080(C)(2) only requires the city to find that the proposed demolition is supportive of the comprehensive plan goals and policies, "on balance," and only suggests six factors that "may" be considered, the Council has significant latitude in applying PCC 33.846.080(C)(2). In the challenged decision, the Council noted that in the past it had interpreted PCC 33.846.080(C)(2) to give the Council "broad discretion" in deciding whether a

proposed demolition of historic structures is on balance supportive of the Plan goals and policies. Record 45.[6]

The city identified 12 Plan goals and by our count a total of 24 policies under those goals.[7] The Council also identified one area plan. In fourteen pages of single-spaced findings, the Council separately addressed all 12 of

---

[6] "In [a prior] Demolition Review * * * the City Council * * * found that it has broad discretion in deciding how to balance applicable comprehensive plan goals and policies, and specifically that 'The Council has the authority to give certain relevant goals and policies more weight' and others less in deciding whether the proposal, on balance, supports the Comprehensive Plan and other relevant area plans." Record 45.

[7] Those Plan goals are listed below:

"Goal 1 Metropolitan Coordination"

"Goal 2 Urban Development"

"Goal 3 Neighborhoods"

"Goal 4 Housing"

"Goal 5 Economic Development"

"Goal 6 Transportation"

"Goal 7 Energy"

"Goal 8 Environment"

"Goal 9 Citizen Involvement"

"Goal 10 Plan Review and Administration"

"Goal 11 Public Facilities"

"Goal 12 Urban Design"

those goals. Record 30-44. The city found that three of the goals are inapplicable.[8] Of the remaining nine goals, the Council found that the proposal meets or supports six goals and the Washington Park Master Plan and "on balance supports" the remaining three goals.[9] Stated differently, the Council found the proposed demolition satisfies, or on balance satisfies, each of the applicable goals and the only identified area plan.

In finding that the proposed demolition and proposed redevelopment and mitigation, on balance, satisfy the goals and policies, the city repeatedly cites two concerns. First, federal drinking water regulations now require that domestic water supply reservoirs be covered or that the water be treated at the point of use.[10] Second, the now active landslide poses a threat to the reservoirs and downgrade properties, particularly when dangers from potential seismic events are factored in. Removing the existing reservoirs and replacing them with the new underground reservoir and improvements designed to stabilize the landslide addresses both of those concerns. While the city recognized that removing the reservoirs and Weir Building will mean the loss of 120-year-old

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[8] The city found goals 4, 5 and 10 to be inapplicable.

[9] Most of the Council's findings address goals 11 and 12, which concern public facilities and historic resources.

[10] The Environmental Protection Agency promulgated the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) in 2006. That rule requires that uncovered reservoirs to be covered or replaced or that the water in such reservoirs be treated. In a separate decision the city has ruled out the covering or treating options.

reservoirs, which are significant historic resources, the city found the gains to public safety from stabilizing the landslide and the improvement to the safety and reliability of the city's water system that the underground reservoir represents significantly exceed the loss of these aging and landslide and seismically challenged reservoirs. In reaching that conclusion, the Council also took into consideration the proposed reflecting pools that to some degree will preserve a visual attribute of the removed reservoirs, the other planned improvements to the remaining historic structures, and the resulting restoration of public access to this historic area.

ASSIGNMENT OF ERROR

In a single assignment of error, petitioner alleges the city misinterpreted PCC 33.846.080(C)(2) and adopted a decision that is not supported by substantial evidence. That assignment of error is made up of four subassignments of error, which we address separately below.

The city argues petitioner waived the issues presented in the first three subassignments of error, by failing to raise them below. We do not agree. Petitioner was not required to anticipate the Council's final decision would adopt the allegedly erroneous interpretations of PCC 33.846.080(C)(2) that are the subject of petitioner's second and third subassignments of error. In addition, petitioner did not waive his first subassignment of error regarding a condition of approval. Assuming the city was legally required to impose the condition of approval identified in the first subassignment of error, we do not

believe petitioner was required to anticipate that the city would fail to impose the required condition of approval in its final written decision.

A. Failure to Impose a Condition of Approval to Require Construction of the Proposed Redevelopment

Petitioner refers to the proposed new underground reservoir and reflecting pools and the proposed mitigation collectively as the "Redevelopment." As PCC 33.846.080(C)(2)(b), (d) and (f) specifically allow, the city considered the merits of the Redevelopment in concluding that on balance the proposed demolition of Reservoirs 3 and 4 and the Weir Building is "supportive of the goals and policies of the Comprehensive Plan[.]" Citing *Sellwood-Moreland Improvement League v. City of Portland*, 68 Or LUBA 213, 223 (2013), *aff'd* 262 Or App 9, 324 P3d 549 (2014), petitioner contends that because the city relied on the Redevelopment in concluding that the proposal complies with PCC 33.846.080(C)(2), it was required to condition demolition review approval on construction of the Redevelopment. Petitioner contends the city's failure to impose such a condition of approval requires remand.

Petitioner relies on the following statement in *Sellwood-Moreland*:

> "[W]here an applicant's representations regarding development must be made binding in order to assure compliance with applicable approval criteria, the local government must impose conditions of approval to embody those representations, and failure to impose such conditions is a basis for remand. *Neste Resins Corp. v. City of Eugene*, 23 Or LUBA 55, [66-67] (1992); *Culligan v. Washington County*, 57 Or LUBA 395, 401-02 (2008). * * * " 68 Or LUBA at 223.

The principle stated in *Sellwood-Moreland* was not an issue in that case, but *Neste Resins* and *Culligan* do stand for the proposition that where a local government is relying on a particular development or a particular limitation on development to find a relevant approval standard is satisfied, there must be something in place to ensure the relied upon development or limitation will become a reality. That reality might be achieved through a condition of approval or it might be achieved because the desired development or development limitation is part of the approved proposal. *NE Medford Neighborhood Coalition v. City of Medford*, 53 Or LUBA 277 (2007); *Culligan*, 57 Or LUBA at 401; *Neste Resins*, 23 Or LUBA at 67.

For purposes of this opinion, we assume the particular Redevelopment discussed in the Council's decision was essential to the Council's reasoning in concluding that demolition of the two reservoirs and the Weir Building is, on balance, supportive of the goals and policies of the Comprehensive Plan. However, a condition of approval is not the only way the city can adequately assure that the proposed Redevelopment becomes a reality. As the city points out, before the city granted Demolition Review approval, applications for the additional land use reviews that are required to construct the Redevelopment had been submitted and those reviews were pending before the city. The nature and scope of the proposed Redevelopment was therefore known. And, more importantly, under PCC 33.445.330(A)(2), the city may not issue a demolition permit to carry out the Demolition Review approval until, among other things,

the city has issued a permit for the Redevelopment.[11] Petitioner makes no attempt to explain why PCC 33.445.330(A)(2) is not sufficient to ensure the Redevelopment becomes a reality.

This subassignment of error is denied.

B. Error to Interpret PCC 33.846.080(C)(2) to be Satisfied Where the Value of the Redevelopment is Merely Comparable to the Value of the Historic Resource that is to be Demolished

The final three paragraphs in the "Conclusions" section of the Council's decision are set out below:

> "*In both of the prior Historic Demolition cases * * *, the City Council indicated that in order for a Demolition Review to be approved, the replacement development must provide a significant public benefit in order to make up for the loss of the historic resource.*

---

[11] PCC 33.445.330(A)(2) provides:

> "Issuance of a demolition permit after demolition review. If the review body for demolition review approves demolition of the resource, a permit for demolition will not be issued until the following are met:
>
> "a. The decision in the demolition review is final;
>
> "b. At least 120 days have passed since the date the Director of the Bureau of Development Services determined that the application was complete; and
>
> "c. A permit for a new building on the site has been issued. The demolition and building permits may be issued simultaneously."

> "*In this case, the historic resources are considerable and the public benefit must be comparable.* As outlined above, the construction of a new buried reservoir will protect downslope properties from a potentially catastrophic event such as an earthquake, while reinforcement of the slope west of Reservoir 4 will help to slow movement of the landslide, thus protecting upland resources such as the International Rose Test Garden. Neither of these aspects of the proposal [is] possible if the existing reservoirs are kept in their current configuration. In addition, decommissioning of the existing reservoirs and construction of a new buried reservoir slightly east of the existing Reservoir 3 will require less maintenance over time as it will not be subject to the persistent force of the landslide compromising its integrity. As mitigation, the City proposes substantial rehabilitation work on the existing historic resources proposed to remain, interpretive programming, and increased accessibility for pedestrians and bicyclists, which will integrate the historic district more fully into Washington Park and allow the public to enjoy this long-closed-off area and its historic resources. These are substantial and significant public benefits.
>
> "On balance, City Council finds that the proposal to demolish Reservoirs 3 and 4 and the Weir Building and redevelop the site as proposed in the applicant's narrative (Exhibits A-1 and A-7), is supportive of the relevant goals and policies of the Comprehensive Plan, and therefore warrants approval." Record 45-46 (Emphases added).

Petitioner focuses exclusively on the two italicized sentences and in particular the Council's use in the second sentence of the word "comparable." Petitioner then relies on a dictionary definition of that word, "[a]ccording to Merriam-Webster, 'comparable' means 'similar' or 'like.'" Finally, petitioner concludes the Council interpreted PCC 33.846.080(C)(2) to be satisfied even if the value of the Redevelopment is less than the value of the Historic resource that is to be demolished:

> "Let's say the Council assigned numeric values to the effect that demolition of an historic resource has on Comp Plan policies. And let's say that the Council found that the negative effects of demolishing a given resource ranks a six, while the positive effects of such demolition (and/or redevelopment) constitute a five. Under the Council's interpretation, such a demolition is presumably okay because five is comparable to six." Amended Petition for Review 12.

The city argues that this subassignment of error "invents an interpretation of [PCC 33.846.080(C)(2)] that the Council did not make and then argues this interpretation is wrong." Amended Respondent's Brief 21. We agree with the city. Even if the two sentences are only viewed in context with the remainder of the three concluding paragraphs set out above, it is clear that the Council did not adopt the interpretation petitioner attributes to the Council. When those sentences are viewed in context with the many pages of findings that precede them, it is clear that the Council recognized a large number of positive impacts from the proposed Redevelopment, and discussed the significance of those impacts. The Council also recognized the comparatively smaller number of negative impacts from the loss of the historic reservoirs and Weir building, and discussed the significance of those negative impacts (loss of two architecturally significant and historic reservoirs and a much less significant Weir Building). The Council simply found that the positives of removing the damaged reservoirs, addressing the landslide and seismic threats, and making improvements to the remaining historic structures while improving the city's water system "on balance" outweigh the negatives

of demolition. The Council simply did not interpret PCC 33.846.080(C)(2) in the way petitioner argues it did, and the way the Council did interpret and apply PCC 33.846.080(C)(2) is entirely consistent with the text of PCC 33.846.080(C)(2). Because the Council's interpretation of PCC 33.846.080(C)(2) is consistent with the text of PCC 33.846.080(C)(2), petitioner has not demonstrated the Council misinterpreted PCC 33.846.080(C)(2). *Siporen v. City of Medford*, 349 Or 247, 261, 243 P3d 776 (2010).

This subassignment of error is denied.

C. Error to Interpret PCC 33.846.080(C)(2) to Allow Consideration of Feasibility

Petitioner's third subassignment of error is based on the findings set out below:

> "* * * Based on the analysis of 'project drivers,' the Portland Water Bureau has no reasonable choice but to demolish Reservoir 3, Reservoir 4, and the Weir Building. The alternative is to maintain deteriorating infrastructure that will continue to be vulnerable to damage by an active landslide or seismic events and that would hold the public at risk of losing water supplies and experiencing downstream flooding." Amended Petition for Review 12.

The two quoted findings appear to be a partial quotation of three findings that appear in the third full paragraph at Record 45, with some text omitted.

Petitioner argues "this finding allows an applicant to justify demolition based on the infeasibility of undertaking the Redevelopment elsewhere." Amended Petition for Review 13. Petitioner then argues that under this

interpretation "[a] demolition Review applicant could achieve compliance [with PCC 33.846.080(C)(2)] simply by proposing a redevelopment that is feasible only on the demolition site."

Once again the city argues that petitioner is attempting to attribute an interpretation to the Council that it did not make. Once again we agree. In addition, we do not understand petitioner's argument. To the extent the quoted finding is concerned about "feasibility" at all, it is concerned with the feasibility of retaining the aging reservoirs, for the reasons set out in the quoted findings and earlier in the Council's decision. The quoted findings have nothing to do with the "feasibility of undertaking the Redevelopment elsewhere."

This subassignment of error is denied.

D. Petitioner's Evidentiary Challenges.

Under this subassignment of error, petitioner argues four of the Council's findings are not supported by substantial evidence. We address those evidentiary challenges separately below.

1. Landslide Danger to Reservoirs; Efficacy of the Redevelopment to Correct the Danger

Petitioner argues the following findings are not supported by substantial evidence:

> "The applicant provided site-specific explanations by qualified and licensed geotechnical and civil engineers establishing that although landslide movement has indeed slowed, the landslide remains active and a danger to the existing reservoirs, and that the

> proposed design will significantly mitigate that danger. The City Council finds the explanation of the engineers to be credible and persuasive, and finds that the landslide hazard is significant and that the design and the new reservoir will address this project driver (also see findings for Policy 11.28 Maintenance[])." Record 27-28.

Petitioner contends the evidentiary record does not support the Council's finding that the existing reservoirs "constitute a danger," or that the "Demolition and Redevelopment will mitigate that danger." Amended Petition for Review 14.

a. Landslide Danger to Reservoir

Petitioner points to a final draft Infrastructure Master Plan (IMP), dated October 2000, and notes that it identifies "[f]our high priority projects," and that addressing landslide dangers to the reservoirs is not one of the four. Record 2025. Petitioner also points to testimony submitted to the Council that the reservoirs survived the Flood of 1964 and a significant rain event in 1996 "without landslide issue." Amended Petition for Review 15. That testimony cited to two landslide studies. Record 2045.

The city responds initially that the Council did not find that the reservoirs themselves constitute a danger. Rather, the city argues, the Council found the landslide poses a danger to the reservoirs. With regard to the final draft IMP, the city points out that while the System Vulnerability Assessment in the IMP does not list the reservoirs as a "high priority" project, it does list "moderate-high, moderate, and 'quick fix' priority projects," which include

"projects that address seismic stability of various reservoirs and tanks." Record 2025. The city also points to memoranda and testimony by two Portland Water Bureau engineers, one of them a geotechnical engineer, that the landslide remains active. Those memoranda, and testimony by the engineers before the city council, rebuts other testimony below that the reservoirs will be able to survive the landslide and seismic events in the future. Record 1867-74, 2071-73, 2132-34. The city contends that evidence "is credible, persuasive and substantial evidence to support the Council's finding that the ongoing landslide hazard is significant." Amended Respondent's Brief 32.

The standard that LUBA is required to apply when reviewing substantial evidence challenges to critical findings of fact is not a particularly demanding standard. The evidentiary record, viewed as a whole, must support the finding. *Dodd v. Hood River County*, 317 Or 172, 179, 855 P2d 608 (1993); *Younger v. City of Portland*, 305 Or 346, 351-52, 752 P2d 262 (1988). In reviewing substantial evidence challenges LUBA does not reweigh the evidence or ask whether it would have adopted the same finding based on all the evidence. *1000 Friends of Oregon v. Marion County*, 116 Or App 584, 587, 842 P2d 441 (1992) (citing *Younger*). Rather, LUBA is to ask whether, faced with the evidence that was placed before the decision maker, the decision maker's finding is "reasonable." *Id.* Applying that standard here, the Council's finding is supported by credible expert evidence, which is believable and conflicts with the evidence cited by petitioner. The Council's finding that the landslide poses

a danger to the reservoirs, particularly when viewed in concert with the seismic dangers, is easily supported by substantial evidence.

b. Redevelopment to Mitigate Landslide Danger

Petitioner disputes that the Redevelopment will mitigate the landslide danger, citing testimony that the landslide is continuing to move and evidence that a buried reservoir located elsewhere in the city, at Powell Butte, is leaking.

The city responds that the application and the evidence submitted in support of the application clearly support the Council's findings that the landslide is continuing to move and that the proposed Redevelopment will include a number of measures to mitigate that danger, including the proposals to locate the new underground reservoir outside the landslide footprint and to construct measures to slow and absorb future landslide movement in ways that mitigate the existing landslide danger. Record 378-79, 2071-73, 2133. The city also argues petitioner has not shown that whatever problems may be causing the Powell Butte reservoir to leak have any bearing on whether the proposed underground reservoir for Washington Park will have similar problems. We agree with the city.

The city's findings that the existing landslide poses a danger to the existing reservoirs and that the Redevelopment will mitigate that danger are supported by substantial evidence, and we reject petitioner's contentions to the contrary.

2. Efforts to Preserve the Reservoirs

Petitioner next contends that the following finding is not supported by substantial evidence:

> "Herculean efforts were undertaken that have allowed the reservoirs to serve the City for over 100 years; however, the force of gravity persists and compromises the reservoirs' ability to withstand a more unpredictable event such as a significant earthquake." Record 45.

The first part of the finding, which characterizes the efforts the city has taken over the past 100 years to address problems caused by the land slide as "Herculean," is an expression of city opinion rather than a finding of fact that is a necessary part of the Council's decision. As such, it need not be supported by substantial evidence, although we cannot say it is an inaccurate characterization based on the evidence the parties have cited. And we have already concluded that there is substantial evidence to support the city's findings that the landslide poses a danger to the reservoirs and that seismic dangers magnify the danger posed by the landslide.

3. The Environmental Protection Agency Rule

Petitioner contends the following finding is not supported by substantial evidence:

> "[T]he Environmental Protection Agency has mandated that drinking water in open reservoirs be either covered or treated at the point of discharge, which ultimately has prompted the City's proposal to demolish the reservoirs and build a new buried reservoir at this point in time, rather than at some later point in time." Amended Petition for Review 16.

The city responds that while the record includes testimony from persons who object to the LT2 rule's cover or treat mandate and continue to believe it may change in the future, the above quoted findings accurately describes the LT2 rule's cover or treat mandate. The city cites to a letter from the Oregon Health Authority that clearly states the LT2 rule's cover or treat mandate, and contends that is substantial evidence that supports the Council's finding. We agree with the city.

4. Reservoir Rebar at Ten Feet on Center

Finally, petitioner argues the following finding is not supported by substantial evidence:

> "* * * The record * * * shows that the [reservoirs] were reinforced with rebar at 10 feet on center, sufficiently [sic] less than would be required today to protect the health and safety of citizens. * * *" Record 27.

In support of his evidentiary challenge, petitioner cites poor quality black and white copies of old photographs in the record. Record 1027, 1770. It is not at all clear to us that those photographs show that the reinforcing bars are spaced less than 10 feet apart. The city cites to evidence in the record that the reservoirs' reinforcing bars were spaced ten feet apart. Record 843 (Washington Park Reservoirs No. 3 and No. 4 Exterior Building Assessment "[r]einforcement bars were anchored at ten-foot intervals within the reservoir basin"); 1157 (National Register Narrative Description describing "'twisted iron' square bars placed ten feet on center"); 2132 (testimony by water bureau

that "[t]he original design I believe had rebar every 10 feet as opposed to 16 inches, which is more normal").

We agree with the city that the Council's rebar finding is supported by substantial evidence. Certainly the unexplained photographs cited by petitioner are not enough to call the evidence cited by the city into question.

Petitioner's substantial evidence subassignment of error is denied.

The city's decision is affirmed.

Certificate of Mailing

I hereby certify that I served the foregoing Final Opinion and Order for LUBA No. 2015-051 on March 2, 2016, by mailing to said parties or their attorney a true copy thereof contained in a sealed envelope with postage prepaid addressed to said parties or their attorney as follows:

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Dated this 2nd day of March, 2016.

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CERTIFICATE OF FILING AND SERVICE

I certify that on April 13, 2016, I filed **Opening Brief, Appendix, and Excerpt of Record** by electronic filing with the State Court Administrator at this address:

https://appellate-efile.ojd.state.or.us/filing/

I also certify that on April 13, 2016, I served the following counsel listed on the Court's service list through the electronic filing system:

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DATED this 13th day of April, 2016.

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